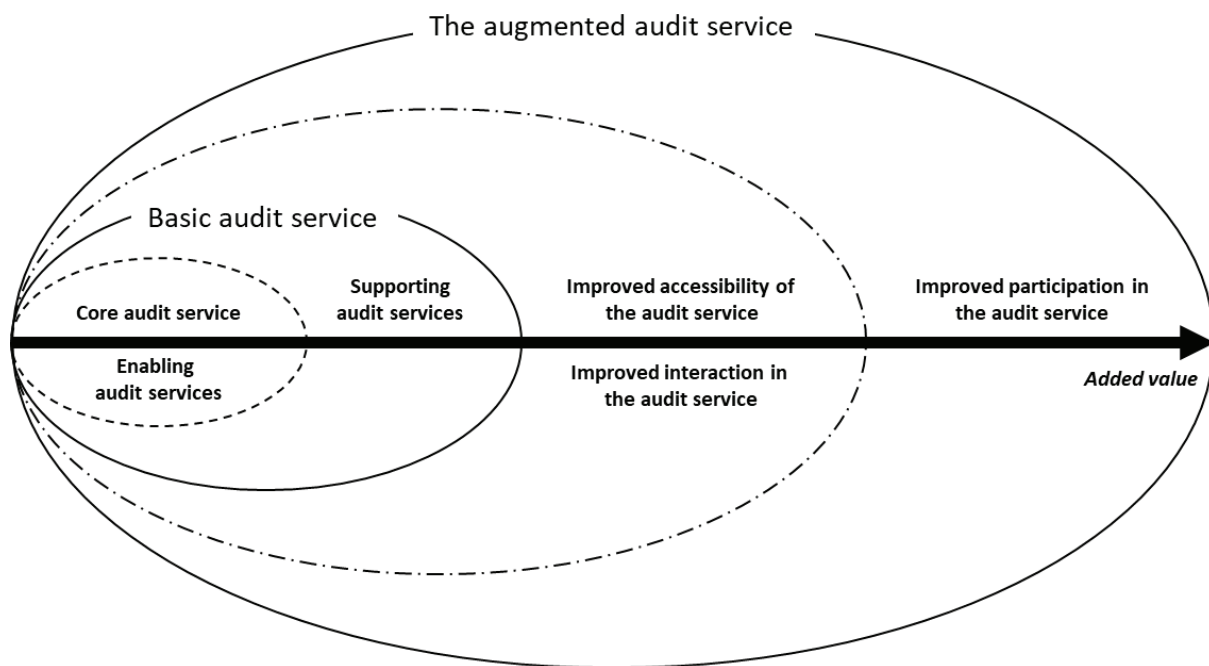


THESIS FOR THE DEGREE OF DOCTOR OF ENGINEERING

# The augmented audit service: Supporting value creation beyond assuring compliance

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CHALMERS UNIVERSITY OF TECHNOLOGY

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Supporting value creation beyond assuring compliance  
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## ABSTRACT

For most organisations, being competitive, performing with good quality, improving customer satisfaction and increasing operational are central. Concepts such as Total Quality Management, Six Sigma and Lean have been implemented to meet these requirements. Further, ISO management system standards such as ISO 9001 have gained widespread attention to meet these demands, and ISO 9001 is now implemented by more than 1.2 million organisations worldwide. Following this diffusion of the ISO management system standards, internal and external audits have become a universal activity among certified organisations. However, audits have been reported to have had a negative association within many organisations, as they are perceived as an inspection activity, focusing on compliance and documentation, and adding disputed value. As a result, management have started to ask for return on investment for the non-negligible costs associated with certification and periodical external and internal audits. Thus, the purpose of this thesis is to describe how auditing of quality management systems can be improved to support value creation beyond assuring compliance to standard requirements. This thesis mainly builds on a qualitative research design and departs from quality management, value-creation and service quality.

The five included papers contribute to the purpose of the thesis by bringing forward several findings: examples of how an organisation can operationalise practices for value-adding audits, factors that contribute to auditee satisfaction, challenges in the auditing context, and suggestions for future research. By viewing auditing as a service, these findings have been integrated into an augmented audit service model that addresses three critical areas for service quality; accessibility, interaction, and participation in the audit service. First, the accessibility of the audit service refers to how easy it is for an auditee to access the audit team/auditor and the audit service. Arguably, the accessibility is improved by adding functional experts to the audit team, being more knowledgeable about the organisation audited, and by shortening the time from audit to delivery of a target group-oriented audit report. Second, the interaction between the auditor and auditee can be improved by utilising easy and correct terminology and language, having an improvement attitude (such as focusing on process improvements), and being adaptable to the context of the quality management system. Third, by spending more time in the preparation phase of the audit, and by introducing an audit sponsor for each individual audit, closer dialogue with management is established, which enables auditees to improve their participation in the audit. This improved participation from auditees also enables auditors to better align their auditing to strategic plans and risks, thus abandoning the cyclical audit programme in favour of a more value-adding audit programme. By addressing all three areas – accessibility, interaction and participation – the audit service can be augmented to support value creation beyond assuring compliance to standard requirements.

**Key words:** quality management, audit, ISO 9001, management system, service quality, value creation



## List of included papers and my contributions

This doctoral thesis is based upon the work contained in the following papers.

### Paper I: Making internal audits business-relevant

*Lenning, J., & Gremyr, I. (2017).*

Published in *Total Quality Management & Business Excellence*, 28(9–10), 1106–1121.

Jan Lenning and Ida Gremyr wrote this paper together. The paper is based on longitudinal data that had been partly collected by Lenning before the paper was initiated. Later, the authors jointly conducted a series of interviews and performed the subsequent complete data analysis. The first version of the paper was presented at the 19<sup>th</sup> International QMOD-ICQSS Conference in Rome, Italy, 2016 and received the Best Paper Award. The paper was then published in *Total Quality Management & Business Excellence* in April 2017.

### Paper II: Auditing of explorative processes

*Lenning, J. (2018)*

Published in *Total Quality Management & Business Excellence*, 29(9–10), 1185–1199.

This paper was written solely by Jan Lenning. The first version of the paper was presented at the 20<sup>th</sup> International QMOD-ICQSS Conference in Elsinore, Denmark, 2017 and invited to be published in one of the journals cooperating with the conference. The paper was then published in *Total Quality Management & Business Excellence* in July 2018.

### Paper III: Enhancing satisfaction in the external audit fieldwork

*Lenning, J., Gremyr, I., Raharjo, H. (2019)*

Submitted for publication in an international, peer-reviewed journal.

Jan Lenning, Ida Gremyr and Hendry Raharjo wrote this paper together. Data collection was performed by Lenning, while all three authors performed the modelling and data analysis together. The first version of the paper was presented at the 21<sup>st</sup> International QMOD-ICQSS Conference in Cardiff, Wales, 2018.

### Paper IV: Increasing the value of quality management systems

*Gremyr, I., Lenning, J., Elg, M., Martin, J. (2020)*

Submitted for publication in an international, peer-reviewed journal.

Ida Gremyr, Jan Lenning, Mattias Elg and Jason Martin wrote this paper together. The data collection was done by Gremyr, Elg and Martin, and data were then jointly analysed by all four authors. Gremyr and Lenning are the main authors of the full paper. The first version of this paper was presented at the 26<sup>th</sup> EurOMA (European Operations Management Association) Conference in Helsinki, Finland, 2019.

## **Paper V: Unleashing the potential of internal audits: a review and research agenda**

*Lenning, J., Gremyr, I. (2020)*

Submitted for publication in an international, peer-reviewed journal.

Lenning, as the first author, and Gremyr wrote this paper together. Both authors jointly conducted the data collection while a greater part of the data analysis was performed by Lenning. The paper was accepted for presentation at the 23<sup>rd</sup> QMOD conference on Quality and Service Sciences ICQSS 2020, 15–17 October in Bratislava. However, the conference was cancelled due to the COVID-19 pandemic.

## Acknowledgements

I have now reached the end of my industrial PhD studies, ending a journey that started at Chalmers in September 2014. Along with being an industrial PhD comes the fact that you not only put yourself at the desk again, but you have two parties calling for your attention, which can be challenging. In my case, being an industrial PhD student at Chalmers has added a two-hour commute between my home in the south of Sweden and Gothenburg. Both of these conditions were on the list of risks when I started this endeavour, and have required a lot of energy, focus and what sometimes felt like an impassable mountain. However, thanks to a very supporting employer, and experienced support from my great colleges at Chalmers, I have been able to navigate these challenges and remain on track. As a result, I have upgraded not only my academic level, but also my subject-specific competences, skills in analytical thinking, research methods, and writing. I have also learnt new things about the academic world, its structure and organisation, and how academia can play an important role in society. All this new knowledge will be a great asset in my future career, and it has been a privilege to have this opportunity.

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To Ida Gremyr, my main supervisor, this journey would not have been possible without you and your support. You took on the challenge to supervise the “auditor” who had some ideas about how auditing of management systems could be improved to add more value. Through the years, your experience as a researcher, your competence in the area of quality management, and your willingness to learn new things have been a great support but also acted as a source of inspiration for me. With a pragmatic and hands-on attitude you have guided me through the PhD process, including my choices of doctoral courses, the research process, the writing process and the publication process. Besides getting to know Professor Gremyr, I have also had the opportunity to make a new friend and sounding board – a person with whom I truly hope to stay in contact.

To Henrik Eriksson, my co-supervisor, thank you for several interesting discussions through my years at Chalmers. Especially those regarding ISO management system standards and auditing, in which you have challenged me. As someone who sometimes gets stuck in my own circles, it is good to be questioned. Also, thank you for supporting and commenting on my teaching in the various master’s programmes and courses I have been involved in. Developing the Chalmers master’s course in Quality Management and including an auditing role-play, where you and I acted as case company representatives, was great fun and an inspiration for future cooperation.

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Patrik 5 Nilsson – some readers may wonder about the “5” in your name. I will leave them wondering. During the years, at nice bars and restaurants in Tokyo, in the company canteen, or over the phone, your experience of being a PhD student from Chalmers has inspired me in our discussions about life as a doctoral student, article writing, and managing the research process. Thank you for pushing me forward, enlivening me, and releasing my sometimes-stressed brain.

To Maria, Erik and Johan, my dear wife and great sons, I am finally about to disembark from this ship. You have been with me all way through. Sometimes I have doubted my capacity to reach the end of this journey, and you have probably felt the same during the bumpier parts. I know that the “research bubble” in which I have now spent just over six years has affected your lives. However, taking a step back, I also know that it has given me new insights and possibilities that have been supportive for all of us, up until now, and will be in the future. Thank you so much for all your care, support and endurance during this journey. I am now ready to embark on the next trip together with you. This was not the end; it was just the end of the beginning towards new future goals.

Jan Lenning,

Källshem, November 2020



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## Terms and definitions

Accessibility of the service – The customer’s access to the service and the service provider, depending on the numbers and skills of the provider personnel, their timetables and time used to perform tasks, but also the ease with which the customer can use any equipment (documents and tools) and participate in the service generation processes (Grönroos, 1987, 2016)

Audit – “Systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled” (International Organization for Standardization [ISO], 2018)

Audit criteria – “Set of requirements used as a reference against which objective evidence is compared” (ISO, 2018)

Auditor – “Person who conducts an audit” (ISO, 2018)

Auditee – “Organization as a whole or parts thereof being audited” (ISO, 2018)

Audit team – “One or more persons conducting an audit supported if needed by technical experts” (ISO, 2018)

Audit findings – “Results of the evaluation of the collected audit evidence against audit criteria” (ISO, 2018)

Audit conclusion – “Outcome of an audit, after consideration of the audit objectives and all audit findings” (ISO, 2018)

Augmented service – The basic service package (see below) “is expanded into an augmented service offering, where the service process and the interaction between the customer and the firm and how these are experienced are included” (Grönroos, 1987, p. 82)

Basic service package – “Bundle of services, which mainly determined what the customers are about to receive” (Grönroos, 1987, p. 82)

Compliance – “If the audit criteria are selected from statutory requirements or regulatory requirements, the audit finding can be called compliance or non-compliance” (ISO, 2015)

Customer – “Users (e.g. customers) integrate resources acquired from a provider with other necessary resources in their possession and apply knowledge and skills held by them in a process that renders value (‘use resources as service’)” (Grönroos & Gummerus, 2014, p. 208)

First-party audit – Internal audits conducted by, or on behalf of, the organization itself (ISO, 2018)

Interaction in the service process – Customer’s interaction with the service provider’s employees, which is dependent providers behaviours, and what they say and do, resources (documents, tools), and systems (delivery systems, booking systems) (Grönroos, 1987, 2016)

Management system (MS) – “Set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives” (ISO, 2015, p. 17)

Management system standard (MSS) – A standard e.g. ISO 9001:2015 that “Provide[s] a model to follow when setting up and operating a management system” (ISO, 2020)

Participation in the service process – The customer’s participation and impact in the service generation process, thus becoming a co-producer of the service and therefore a co-creator of value (Grönroos, 2016)

Service – “Support for an individual’s or organisation’s everyday processes in a way that facilitates this individual’s or organisation’s value creation” (Grönroos & Gummerus, 2014, p. 208)

Quality – the “Ability to satisfy, or preferably exceed, the needs and expectations of the customer” (Bergman & Klefsjö, 2010, p. 23)

Quality management (QM) – “A philosophy or an approach to management that can be characterized by its principles, practices, and techniques” (Dean & Bowen, 1994, p. 394). The three core principles of QM are customer focus, continuous improvements and teamwork.

Quality management system (QMS) – “Part of a management system with regard to quality” (ISO, 2015, p. 17)

Second-party audit – External audits, “audits conducted by organizations on their external providers and other external interested parties” (ISO, 2018, p. vi)

Service provider – “Through all their actions and interactions with users (e.g. customers), firms strive to support users’ everyday processes in a way that facilitates (or contributes to) users’ value creation” (Grönroos & Gummerus, 2014, p. 208)

Third-party audit – External audits, “audits conducted by independent auditing organizations, such as those providing certification/registration of conformity or governmental agencies” (ISO, 2018, p. 1)

Value – “Value-in-use, created by the user (individually and socially), during usage of resources and processes (and their outcomes)” (Grönroos & Voima, 2013, p. 144)

Value co-creation – “A joint process that takes place on a co-creation platform involving, for example, a service provider and a customer, where the service provider’s service (production) process and the customer’s consumption and value creation process merge into one process of direct interactions. In this merged process, the service provider may engage with the customer’s value creation and, through joint co-creational actions, influence the customer’s creation of value-in-use” (Grönroos & Gummerus, 2014, p. 210)



# 1 Introduction

This thesis addresses how the auditing of quality management systems can be improved to support value creation beyond assuring compliance to standard requirements. While audits are perceived in many ways, both negative and positive, I would like to set the scene with a quote that illustrates the potentials in auditing. Releasing this potential has been my guiding star through years of auditing and in this thesis.

“Effective internal audit is the most influential ISO 9001 requirement and a value-added source of improvement, which significantly and positively impacts customer satisfaction. Internal audit brings value to the company because it creates opportunities for strategic initiatives and the new ideas that challenge the existing practices, leading to ongoing business performance improvements that include customer satisfaction.”

(Tomic & Spasojevic Brkic, 2019, p. 232)

## 1.1 Background

Globally, more than 1.2 million organisations have implemented the ISO 9001 quality management system (QMS) standard and hold the corresponding certification (ISO, 2019). Studies of quality management (QM) and its application in various organisations indicate that work on QMS plays a key role for many quality professionals (Elg et al., 2011), and that a significant amount of time and focus in organisations’ QM work is directed to the QMS (Elg et al., 2011). A QMS, based upon the ISO 9001, is argued to have the potential to contribute to quality improvements (Sousa & Voss, 2002), improved operational performance (Kaynak, 2003) and support the implementation of sustainable development efforts through integrated management systems (Siva et al., 2016). However, in addition to the positive effects of implementing a QMS, it has also been argued that a QMS can result in less-positive effects, such as increased formalisation and bureaucracy, which has been suggested as a reason why QMS are perceived as hindering rather than supporting development efforts (Allur et al., 2018). QMS has also been critiqued for providing limited value in its support for quality improvement, hindering creativity, and being disconnected from actual practice (Poksinska et al., 2006). Given that 1.2 million organisations invest a lot of resources in implementing and maintaining a QMS, a key question is how to make sure that they get a return on that investment.

A prerequisite for implementing a QMS, and becoming (and remaining) certified, is to undergo different types of audits. An audit is defined as a “systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled” (ISO, 2018). Typical audit criteria may include standards, policies, procedures, work instructions, legal requirements and contractual obligations. In an audit, there are two major interested parties related to the process for auditing QMS: the auditors (that is, the person/s who conduct the audit (ISO, 2018)) and the auditees (the organisation as a whole or parts thereof being audited (ISO, 2018)). The outcome of the audit process – the audit conclusion – is formulated after consideration of the audit objectives and a review of the results from the evaluation of the collected audit evidence against the audit criteria; for example, ISO 9001, ISO 14001, and corporate standards.

In this thesis, an audit is viewed as a service, and the analysis draws on the augmented service offering (Grönroos, 1987). A service can be defined as “support for an individual’s or organisation’s everyday processes in a way that facilitates this individual’s or organisation’s value creation” (Grönroos & Gummerus, 2014, p. 208), and includes at least two objects: one

applying knowledge and skills (service provider) and the other one integrating knowledge and skills (customer) (Grönroos & Gummerus, 2014). In the present thesis, the service provider is represented by the auditor/audit team, and the customer of the service by the auditee.

Perceptions of audits as a principal practice of QMS work are reported to be negative within many organisations because audits are perceived as an inspection activity that focuses on compliance and documentation (Beckmerhagen et al., 2004; Dennis Beecroft, 1996; Elliott et al., 2007; Hawkes & Adams, 1994; Pun et al., 1999). Furthermore, it has been argued that the reason for implementing the QMS affects perceptions of auditing: whether the QMS is implemented based on external requirements and tends to focus more on compliance control than on organisational efficiency (Alič & Rusjan, 2010), or whether it is implemented based on internal needs, which seems to result in more benefits (Alič & Rusjan, 2010; Boiral & Amara, 2009; Poksinska et al., 2002; Sampaio et al., 2009). However, earlier research has also argued that there is potential in auditing to drive continuous improvements (Esa et al., 2006; Marques et al., 2013; Tomic & Spasojevic Brkic, 2019; Underdown & Yentzen, 2012), contribute to improvement in business performance (Alič & Rusjan, 2011) and be a way of identifying process improvements (Fletcher & Gupta, 1999).

Returning to the view of audits as a service, the augmented service offering model (Grönroos, 1987) consists of two parts: the basic service, representing the “what of the service delivery”, and the service augmentation, representing the “how of the service delivery”. This basic service is built upon three parts. The first is the core service; that is, the reason for being present. The second is the enabling service that is required to deliver the core service, and the third is the enhancing service, which increases the value of the core service but can be left out. The service augmentation, to build a more comprehensive service offering, is also represented by three parts. The first is accessibility; that is, customer’s access to the provider employees, but also the ease with which the customer can use any equipment and participate in the service generation processes (Storey & Easingwood, 1998). Accessibility is argued to depend on the competence of the service provider and their timetables but also on tools and documents used (Grönroos, 1987). The second part is interaction; that is, the customer’s interaction with the provider’s resources, systems and employees (Storey & Easingwood, 1998). This interaction is argued to depend on the communication between the auditor and the auditee, which in turn depends on such factors as the auditors’ attitudes and what and how they say things (Grönroos, 1987). The third part is participation, specifically customers’ participation in the service generation process and their impact on the service; in other words, customers become a co-producer of the service and consequently also a co-creator of value (Grönroos, 1987). It has been argued that this participation depends on how well the auditee is prepared and willing to participate (Grönroos, 2016). Resulting from the somewhat negative perception of QMS in general, and audits in particular, and drawing on the augmented service offering model (Grönroos, 1987), it can be argued that auditing has been perceived as focusing too much on the basic service – that is, fulfilling the audit programme – instead of on the resulting value (Beckmerhagen et al., 2004; Elliott et al., 2007; Meegan & Simpson, 1997).

As a result, managers have started to ask for return on investment from QMS, quality programmes and other quality-related initiatives (Coelho & Vilares, 2010). Questions have also been raised concerning the value of audits (Heras-Saizarbitoria et al., 2013). As a result of these negative associations and perceptions, there have been calls for improvements to auditing (Alič & Rusjan, 2010, 2011; Beckmerhagen et al., 2004; Pivka, 2004; Power & Terziovski, 2007; Roth, 2003). These calls are supported by the fact that requirements for being certified towards the ISO 9001 management system standards (MSS) have become an important qualifier in industry (Boiral & Amara, 2009; del Castillo-Peces et al., 2018). To improve the auditing of



QMS, earlier studies have suggested practices for value-adding audits. The purposes of such practices have included creating closer auditor contact with management (Roth, 2003), ensuring that auditors have organisation-specific knowledge and adaptability (Power & Terziovski, 2005; Ramly et al., 2007), but also involving functional experts in the audit (Pivka, 2004). It has also been suggested that auditors should be able to express positive opinions (Piskar, 2006), have communication skills and be able to show empathy (Power & Terziovski, 2007). Furthermore, it has been argued that audits should be focused on and aligned with an organisation's processes (Berlitz & Gaelzer, 2009), and that more emphasis should be given to planning audits towards continuous improvements (Esa et al., 2006).

There is agreement in the literature that auditing of QMS should be improved, and suggestions for what to improve have been brought forward, focusing primarily on the service augmentation (Grönroos, 1987). However, the research area is fragmented and there are few examples of *how* suggested practices for value adding audits can be organised and brought into action to support value creation beyond assuring compliance to standard requirements. Drawing on Pettigrew's (1987) three dimensions for studying change – context (why), content (what) and process (how) – it can be argued that a change of auditing of QMS should be viewed from all three dimensions, and not only the content dimensions, which has been the main focus in most research to date.

## ***1.2 Purpose and research questions***

Following the discussion above, the purpose of this thesis is to describe *how* auditing of QMS can be improved to support value creation beyond assuring compliance to standard requirements. Three research questions (RQ) have been formulated to guide this thesis. First, accessibility is dependent on the service providers' (auditors') skills, plans and tools (Grönroos, 1987). However earlier research indicates that there is a need to develop organisation-specific knowledge (Power & Terziovski, 2005; Ramly et al., 2007) but also that audits should be planned towards an organisation's processes (Berlitz & Gaelzer, 2009) and have more emphasis on continuous improvements (Esa et al., 2006). All of this means that more emphasis on improving accessibility is still needed; therefore, the first RQ was formulated as:

RQ1: How can the accessibility of the audit be improved?

Second, interaction between the two major interested parties in the audit is reliant on the communication between the service provider/auditor and the customer/auditee, which in turn depends on the behaviour of the service provider's employees, their attitudes, what they say and do, and how they say and do those things (Grönroos, 1987). However, earlier research has argued that there is a need for auditors to further improve their ability to express positive opinions (Piskar, 2006), and improve their communication skills and ability to show empathy (Power & Terziovski, 2007). Hence, there is still a need for improved interaction; therefore, the second RQ is:

RQ2: How can the interaction between the auditor and the auditee be improved?

Third, it has been argued that customer participation enables the customer to impact the service but is also a prerequisite for becoming a co-producer of the service, and hence a co-creator of value (Grönroos, 2016). However, earlier research points towards a need to involve all functions (Rippin et al., 1994) and management (Alič & Rusjan, 2011) as prerequisite for value-adding audits. Thus, the third RQ is defined as:

RQ3: How can the participation in the audit be improved?

### 1.3 Relevance to research and managerial practice

This thesis adds to earlier research in different ways. The first is by helping close the research gap regarding how auditing of QMS can be improved, by suggesting tested short- and long-term changes of audit practices. Second, by drawing on earlier research on auditing, service quality and the augmented service offering model (Grönroos, 1987, 2016), this thesis provides a model – the augmented audit service model – for improving auditing of QMS. The third way is by empirically studying proposals from earlier research that argued that auditing can add value beyond verifying compliance to a standard.

This thesis adds to practice and management in four ways. First, by presenting implemented short- and long-term changes of audit practices for improving accessibility, interaction and participation, which are key components for augmenting a service. Second, by combining the proposed short- and long-term changes of audit practices and the augmented service offering model (Grönroos, 1987, 2016) into the so-called augmented audit service model. Third, by addressing a need for changes of the audit process and auditor curriculums, such as additional activities in the audit process, supplementary auditor competencies and changed attitudes. Fourth, by bringing forward suggestions for what to improve related to auditing of QMS, which could also be utilised for other types of audits.

### 1.4 Structure of the thesis

This thesis is based on five papers, and the cover paper consists of six chapters; see Figure 1. Following this introductory chapter (Chapter 1), a frame of reference (Chapter 2) is presented. Chapter 3, the research methodology chapter, presents the research strategy and designs used in this thesis and also discusses research quality and ethical considerations. This is followed by a summary of the included papers (Chapter 4), including the main contributions of each paper. Chapter 5 discusses the empirical findings of the included papers by answering the three research questions. Based on these answers, the augmented audit service model is presented and discussed, followed by reflections, contributions and a discussion of the limitations in this thesis and suggestions for future research. Finally, in Chapter 6, the purpose of the thesis is revisited through a summary of conclusions.

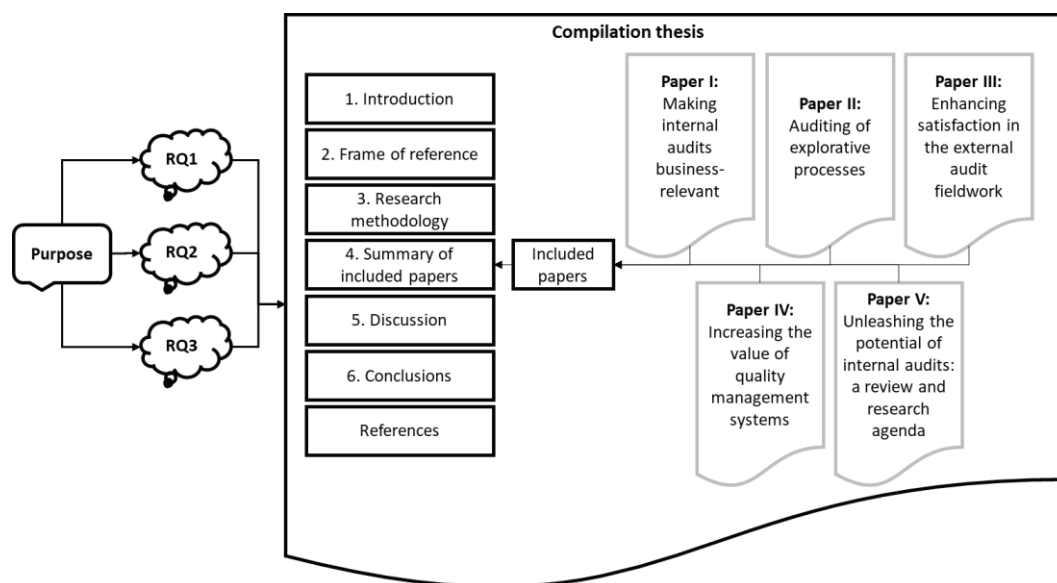


Figure 1 – Structure of the compilation thesis

## 2 Frame of reference

To address the purpose and RQs introduced above, focusing on how to improve auditing of QMS and viewing an audit as a service, this thesis is informed by accounts of quality management, quality management systems and the audit process, including earlier research on perceptions of audits. This is followed by an account of suggestions for practices that can be implemented to improve auditing of QMS, but also accounts of the concept of value, value creation and value co-creation. Finally, accounts for service quality and the augmented service are presented, followed by a synthesis of the frame of reference.

### 2.1 *Quality management*

Born four decades ago from the ideas of W. Edwards Deming, Walter A. Shewhart, Joseph M. Juran and Kaoru Ishikawa, quality management (QM) has evolved to become a management philosophy and approach (Hackman & Wageman, 1995). Dean and Bowen (1994) posited that QM is based on three pillars: principles, practices and techniques. The goal of the first principle (customer focus) is to design and deliver products and services that satisfy customer needs. Practices supportive of this principle include having direct contact with customers, collecting information about their needs and expectations, and analysing this information. Techniques used to execute these practices include customer surveys and focus groups. The goal of the second principle, continuous improvements, is to continuously analyse and improve organisational processes used to design and deliver products and services. Practices supporting this principle include process analysis and problem-solving methods, and typical techniques include flow charts and statistical process control. The third principle, teamwork, includes collaboration among functions, non-managers and managers, but also between suppliers and customers. This principle is supported by practices such as search for activities that benefits all units involved in a process, but also by team skills training. Techniques used to support these practices include group feedback exercises and role clarification work (Dean & Bowen, 1994).

QM has been implemented throughout organisations in different forms, such as Total Quality Management (TQM) (Hackman & Wageman, 1995), Six Sigma (Ette et al., 2005) and Lean (Womack & Jones, 1997), as a means of improving the quality of existing products and services, increasing operational efficiency in order to reduce costs, and increasing customer satisfaction (Andersson et al., 2006; Eklund et al., 2010). Evolving from QM, Total Quality Management (TQM) was later presented as a management system founded upon three independent pillars – values, methodologies and tools – where methodologies and tools support the values (Hellsten & Klefsjö, 2000). The first pillar of TQM, values, includes customer focus, continuous improvements, process orientation, fact-based decisions, management commitment, and engagement. The second pillar of TQM, methodologies, have been defined as activities performed to reach the values, such as process management, benchmarking and quality function deployment (Hellsten & Klefsjö, 2000). The third pillar of TQM, tools, include Ishikawa diagrams, process maps and ISO 9001. The above-mentioned values, as defined by Hellsten and Klefsjö (2000), are similar to the seven quality management principles – customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making, and relationship management – stated as the foundation for the ISO 9000 family (ISO, 2020). ISO has defined a quality management principle as a basic belief, theory or rule that influences how something is practised and can be used as guidance when an organisation performs improvements.

Many similarities can be found among the various views of QM (Dean & Bowen, 1994; Hackman & Wageman, 1995; Hellsten & Klefsjö, 2000), but also the ISO 9001 standard – for example, a focus on customers and on continuous improvement – but also differences, which may cause confusion. An example of the latter is the “quality house”, which Hellsten and Klefsjö (2000) viewed as a tool to be used within the methodology of “quality function deployment”, while Dean and Bowen (1994) viewed quality function deployment as a technique to be used within the practice of collecting information about customer needs. Building on the structure of QM by Dean and Bowen (1994) – that is, principles, practices and techniques – the present thesis uses the definition of QM defined as a “a philosophy or an approach to management that can be characterized by its principles, practices, and techniques” (Dean & Bowen, 1994, p. 394). Furthermore, in line with the three principles for QM put forth by Dean and Bowen (1994) – customer focus, continuous improvements, and teamwork – quality is defined herein as the “ability to satisfy, or preferably exceed, the needs and expectations of the customer” (Bergman & Klefsjö, 2010, p. 23). Moreover, by equating principles and values, and by following the advice from Sousa and Voss (2002), that QM should be viewed at the practice level – that is, “practices are the observable facets of QM, and it is through them that managers work to realize organizational improvements” (Sousa & Voss, 2002, p. 92) – the following positioning of auditing in relation to QM will be used in this thesis: the QM principle continuous improvement can be supported by the practice of auditing, which in turn can be supported by several techniques such as interview techniques, sampling techniques, communication techniques and presentation techniques.

Three views of QM have been identified in organisations: business management, improvement and compliance (Maguad, 2006). First, the business management-oriented QM requires a unified deployment of strategy, and attention to critical success factors and core processes. It also requires involvement from top management and all employees in efforts regarding continuous improvement (Maguad, 2006). Second, the improvement-oriented view of QM promotes an integrated approach for process improvement and involves the entire organisation in a long-term commitment to product, service and process improvements (Maguad, 2006). Third, Maguad (2006) argued that a focus on providing documentation, developing procedures and ensuring consistency results in a compliance-oriented approach to QM. Eventhough the three views of QM are different, all three orientations must coincide in order for an organisation to be successful in its quality management work (Maguad, 2006).

The effects of QM on an organisation’s performance have been studied and both positive and negative effects have been reported. Kaynak (2003) made a cross-sectional study of US firms and found that factors such as supplier QM, process management, leadership and employee relations all had positive effects on operating performance. In turn, this positive effect on operating performance resulted in a positive outcome on financial and market performance (Kaynak, 2003). The view that QM positively affects performance is also supported by Nair (2006), Baird et al. (2011), Douglas and Judge Jr. (2001). Moreover, leadership and management commitment to QM was shown to be critical because it both enforced and supported employee training, but also empowered employee’s consciousness about the organisation’s goals. On the other hand, the lack of such management commitment resulted in resistance to change and failures in implementing QM; consequently, fewer positive effects on operating performance were reached (Kaynak, 2003). Several QM principles, such as customer focus, process management (PM), people management and management leadership have been found to be positively related to firm-level performance, and should be implemented together, and not selective, while they are integrated and support each other (Douglas & Judge Jr., 2001). However, it has been pointed out that positive effects of QM on the firm level can be somewhat different on the plant level (Nair, 2006).

Following from the above description of research on QM, process orientation seems to be central and recurrent. In Deming's (1988) improvement framework, organisations were already seen as a system of interlinked processes and the improvement thereof was seen as a prerequisite for improving efficiency and performance. Process management is built upon three practices – designing processes, controlling processes and improving processes (Hammer, 2015; Juran & Godfrey, 1999) – and has become a central part of QM (Hackman & Wageman, 1995). Process management has been implemented throughout many organisations as a means of increasing operational efficiency, but also as a means of improving the quality of existing products and services in order to increase customer satisfaction (Andersson et al., 2006; Eklund et al., 2010). However, it has been argued that in order for a process such as a development process, a sales process or an audit process to become a contributor to an organisation's competitive advantage, the processes should be carefully aligned with its environment, the organisation's strategy, and designed to be flexible and in focus for continuous improvement activities (Trkman, 2010).

Although the impact of process management has been found to be positive, some studies have also pointed to some negative implications from process management. For example, it has been found that process management practices drive a culture of local search; that is, exploitation (Benner & Tushman, 2002). This results in a decrease and a crowding-out effect of the more explorative forms of innovation, which, in a turbulent environment, could negatively impact a firm's chances of survival (Benner & Tushman, 2002). Therefore, organisations should not focus merely on either exploitation or on exploration; it is imperative to understand how to balance the two (March, 1991; Palm & Lilja, 2017; Smith & Tushman, 2005; Sutcliffe et al., 2000); this is known as ambidexterity (Duncan, 1976). Even if this dual focus is complicated, it has been claimed that ambidexterity is increasingly needed in dynamic environments where organisations' existing advantages are continuously at risk and new opportunities must frequently be found (Junni et al., 2013). Organisations that have successfully balanced exploitation and exploration have managed to use and refine their present knowledge at the same time as they create new knowledge (Turner et al., 2013). Such an effective balance has resulted in launches of more successful products and services compared to more traditional organisations, which are either exploitative or explorative (He & Wong, 2004; O'Reilly & Tushman, 2004; Smith & Tushman, 2005; Tushman, 1997).

Succeeding the above presentation of QM, which takes different forms, but all with the means of improving quality, the next section presents an account for QMS, followed by accounts for auditing of QMS and perceptions thereof, and suggested improvements of auditing of QMS.

## **2.2 *Quality management systems***

A management system is defined as “set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives” (ISO, 2015). In order to design a management system, a standard is used. ISO defined a management system standard as a standard that “Provide[s] a model to follow when setting up and operating a management system” (ISO, 2020). While there are several types of standards, such as ISO 9001 for QMS, ISO 14001 for Environmental Management Systems and ISO 27001 for Information Security Management Systems, the most common is the ISO 9001 regarding quality. Among the reasons for implementing a QMS based upon a standard are more efficient use of resources, improved risk management and improved customer satisfaction (ISO, 2020), and improved corporate image and quality (Poksinska et al., 2002), or as an advantage when competing on the market (Psomas et al., 2011). In addition to implementing a management system, an organisation can apply for its management system to be certified.

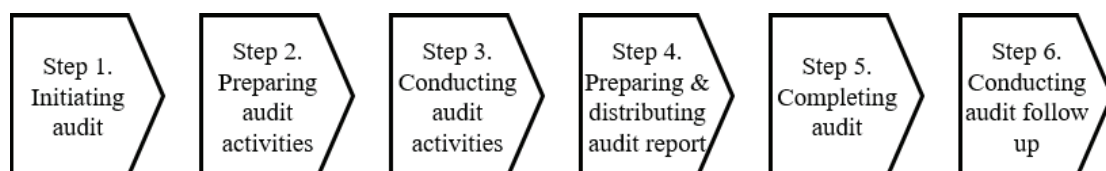


Certification can be of value as a way of demonstrating commitment – for example, to the environment (Poksinska et al., 2003) – and in some industries having a certificate can even be a legal or contractual requirement (ISO, 2020). However, certification of a MS to any of the standards is not a requirement and an organisation can still benefit from only building and implementing a management system.

The present thesis focuses on quality management systems (QMS) based upon the ISO 9001 standard provided by the International Organisation for Standardisation (ISO). Several key factors affect the implementation of a QMS and it is argued that key drivers to have an effective implementation include whether the organisation has a focus on internal improvements instead of focusing on the certification, and whether there was top management support that not only affected the implementation, but also employees' attitudes towards implementation (Gray et al., 2014). In addition to these two key drivers, process management orientation has also been found to be a driver, together with information technology and engaged employees (Gray et al., 2014). Furthermore, internal motivation (such as management directions) vs. external motivation (such as customer requirements) and its effect on the outcome of an ISO 9001 adoption have been studied. Alič and Rusjan (2010), Eklund et al. (2010), Poksinska et al. (2006) and Prajogo (2011) all concluded that having internal motivation as a driver for an implementation of a management system results in a higher performance of the management system and affects the implementation process to a higher degree than external motivation. Moreover, several case studies have explored the effects of having implemented a QMS. Certified firms have been shown to improve their organisational competitiveness (Han et al., 2007), increase their production volumes (Terlaak & King, 2006), and reach higher return on investment (Pinar & Ozgur, 2007). There is also evidence that implementation of a standard like ISO 9001 correlates to increased customer satisfaction (Chatzoglou et al., 2015; Nabavi et al., 2014) and improved financial performance (Chatzoglou et al., 2015).

### ***2.3 The audit process and perceptions of audits***

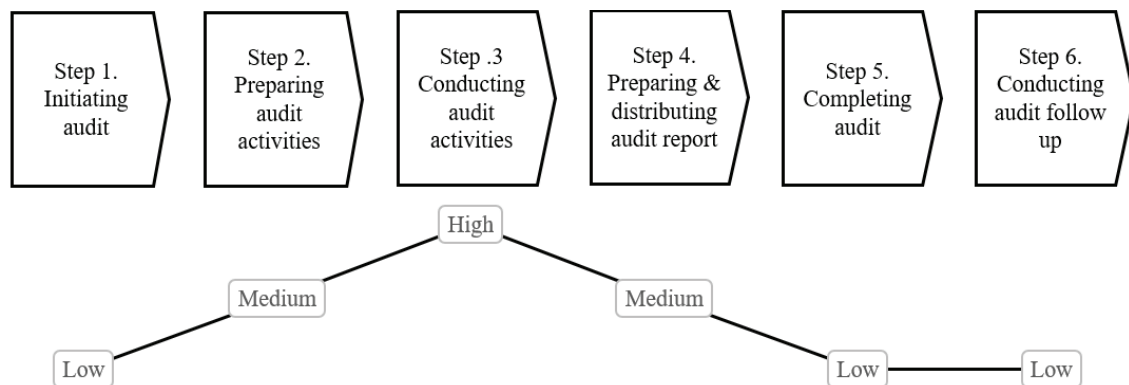
Having implemented and certified a QMS, it is mandatory to plan an audit programme and conduct audits, and both internal (first-party) and external (third-party) audits are required. An audit has several objectives, such as indicating conformity or nonconformity to legal or other requirements, evaluating the capability and effectiveness of the management system, and identifying opportunities for improvements and best practices (ISO, 2018). A six-step process for audits is described in ISO 19011:2018 (see Figure 2). This process is generic for both internal and external audits of QMS.



**Figure 2 – The audit process adapted from ISO (2018)**

In Step 1, the audit is initiated, and the focus is on establishing contact between the audit team and the auditee. During Step 2, the audit team prepares the audit and an audit plan is developed that specifies the audit objectives, scope, functions and processes to be audited, and the physical locations, dates, expected time and duration of the audit activities (ISO, 2018). As this step involves detailed planning to determine the focus of the audit and the personnel who will be involved, the audit team often request detailed information from the auditee, such as

organisational information and process information. During Step 3, the fieldwork is conducted. This step mainly consists of three parts: an opening meeting with the purpose of introducing the audit team and confirming the audit schedule; the audit interviews, where the audit team collect and verify information relevant to the audit scope, objectives and the set audit criteria; and the closing meeting, at which the audit team presents the audit findings and conclusions to the auditees (ISO, 2018). In Step 4, the audit team prepares and distributes the audit report, and in Step 5 they close the audit after all planned audit activities have been carried out. In Step 6, the audit team verifies the completion and effectiveness of actions taken by the auditee. From viewing the audit process outlined in Figure 2, and the descriptions of the different steps of the audit process above, it can be understood that there is a varying level of interaction between the auditor and the auditee throughout the audit process; see Figure 3.



**Figure 3 – Level of interaction between the auditor and the auditee in the audit process**

Perceptions of internal audits have been studied and the results can be grouped into two themes of perceptions. One theme argues that an audit is a negative process that focuses on compliance, documentation and inspection (Beckmerhagen et al., 2004; Elliott et al., 2007; Hawkes & Adams, 1994; Pivka, 2004; Pun et al., 1999). Audits are also reported to be perceived as a waste of time in which little value was gained (Chiarini, 2019) and that audits are perceived as time-consuming and that the value-add from findings were lacking (Ramly et al., 2018). It has been argued that making symbolic suggestions for non-conformities and improvements following a checklist built upon ISO requirements does not enhance the quality and the capability of an organisation (Sun et al., 2017). Thus, audits should not only be a simple check of whether the ISO requirements are met or not; that is, compliance (Beeler, 1999; Chiarini, 2019; Roworth & Muir, 1999).

The other theme suggests that audits focus too much on the audit programme and executing the individual audit rather than on creating value (Beckmerhagen et al., 2004; Elliott et al., 2007; Meegan & Simpson, 1997). A study by Power and Terziovski (2007) found that non-financial auditors perceive their audits as being focused on continuous improvements, but their clients, by contrast, felt that the audit was mainly compliance-oriented and less focused on continuous improvements. Such compliance-focused audits are felt to mainly have value before the certification is passed and should henceforth be more of a routine activity (Pivka, 2004). However, earlier research also suggests that internal audits can drive continuous improvements (Underdown & Yentzen, 2012; Verkhovskaya et al., 2016), and improvement in business performance (Alič & Rusjan, 2011). Tomic and Spasojevic Brkic (2019) concluded that internal audits are a valuable source of improvements and can contribute significantly to customer satisfaction.

## 2.4 *Suggested auditing improvements*

In order to move away the compliance-focused audits, which focus on documentation rather than on having a positive impact and improving efficiency, several prerequisites for more value-adding internal audits have been proposed. These prerequisites can be grouped into two main areas: those related to the audit process, including auditors, and those related to the context of the audit process.

The former can be grouped into four areas (see Table 1): (1) relationships and interaction between the auditor and the auditee, (2) audit focus, (3) auditor skills and (4) report and follow-up of audits. First, it is argued that an improved relationship between the auditor and the auditee has a moderating influence on the perceived audit practice and could play a role in reducing the gap between expected and actual audit practices (Power and Terziovski, 2007). Furthermore, earlier studies have also suggested that creating relationships and involvement from management in the audit process (Alič & Rusjan, 2011; Dale & Askey, 1994; Pivka, 2004; Poksinska et al., 2002) and from functions being audited in the organisation (Rippin et al., 1994) are prerequisites for value-adding audits. Through establishing good relationships with management, auditors can also build a deeper understanding of risks, challenges and plans within the organisation (Roth, 2003) before the audit is executed.

Second, studies have looked at what auditors focus on and suggested that the audit team should focus more on fact-finding, continuous improvements, providing recommendations, and consultation (Dale & Askey, 1994; Dennis Beecroft, 1996; Mahzan & Hassan, 2015; Roth, 2003). It is also suggested that audits should focus more on an organisation's processes (Fletcher & Gupta, 1999) than on organisational units (Islamova & Volkova, 2017; Kaziliunas, 2008; Ni & Karapetrovic, 2003). Focusing on processes is considered to be more effective (Islamova & Volkova, 2017; Kaziliunas, 2008; Ni & Karapetrovic, 2003) and it has been claimed that a process approach can result in a reduction of time and cost for involvement in the audit cycle (Berlitz & Gaelzer, 2009). Moreover, to enhance the audit programme, it has been suggested that the audit programme should be structured based on QM principles like continuous improvement; for example, auditing improvement projects (Abarca, 1999; Dennis Beecroft, 1996; Liebesman, 2002; Piskar, 2006).

Third, extant research has brought forward several skills and competencies that are considered necessary for value-adding audits. Besides basic auditing skills, some researchers have argued that an auditor should possess management experience (Sun et al., 2017), being able to act as an integral, objectively fair and sympathetic partner to the organisation (Frei, 1998), and have a positive attitude (Sirk & Popovic, 2015). Knowledge in finance and environmental issues is also considered a prerequisite to better understand business operations (Merrill, 1996). Finally, context-related skills, organisation-specific knowledge and adaptability are skills that will arguably support value-adding audits (Pivka, 2004; Power & Terziovski, 2005; Ramly et al., 2007).

Fourth, it has been proposed that adjusting the reporting format according to the type of organisation and the audience for the report (Mahzan & Hassan, 2015; Piskar, 2006) can add value. From an audit performance perspective, it is suggested that the effectiveness of the audit, rather than the efficiency of the audit, should be measured together with benefits and savings from the audit (Beckmerhagen et al., 2004; Elliott et al., 2007; Karapetrovic & Willborn, 2000; Piskar, 2006; Rajendran & Devadasan, 2005).

The above-mentioned prerequisites for value-adding audits are summarised in Table 1.



**Table 1 – Summary of prerequisites for value-adding audits related to the audit process**

Area	Prerequisite
Relationship and interaction:	Between auditor and the auditee, moderating and reducing the gap between expected and actual audit practices With management, including involvement from management With organisations being audited
Focus audits on:	Fact-finding Continuous improvements Processes
Necessary auditor skill and competencies:	Management experience Act as an integral and objective partner Positive attitude Knowledge in, for example, organisational context, strategies, challenges, risks, plans Adaptable
Report results and follow-up on audits:	Receiver-oriented reports Metrics for measuring audit effectiveness

Regarding prerequisites related to the context of the audit process, earlier research suggests that the context of the management system, such as a QMS, is affected by the type of motivation for implementing the management system, as discussed in Section 2.2. In the case of a management system implementation based on external motivation, audits tend to be more compliance-focused (Alič & Rusjan, 2011). However, if the implementation of the management system is instead grounded in internal motivation for certification, it is more likely that the audit will be viewed as a valuable management tool (Alič & Rusjan, 2010; Boiral & Amara, 2009; Poksinska et al., 2002; Sampaio et al., 2009). Furthermore, it has also been suggested that auditors need to adapt to the context of the audit and the maturity of the management system by having less of a compliance focus; for example, when a more mature management system is present (Terziovski et al., 2002). Moreover, viewing the audit programme as setting the context for the audit, research has suggested that connecting the audit programme to practical needs and other established organisational activities (Dale & Askey, 1994; Rippin et al., 1994; Roth, 2003) produces positive effects, such as auditors becoming better at helping the executive management team achieve organisational objectives (Alič & Rusjan, 2011; Roth, 2003).

Succeeding the above presentation of suggested improvements of auditing to add more value, the concept of value will be further elaborated on below, where the following section presents an account of value and value creation, followed by an account of value co-creation.

## **2.5 Value and value creation**

Generating and delivering value to customers has become an ongoing concern for management in almost all businesses today (Ulaga & Chacour, 2001). Earlier literature contains a collection of different definitions of value, and even in the seminal work by Adam Smith (1723–1790), value was introduced and defined as following (Smith, 2010, p. 18):

The word VALUE, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called 'value in use;' the other, 'value in exchange.

In the “value in exchange” view of economic exchange (that is, goods logic), the process of value creation occurs inside the provider through its activities, but outside the market and without customers involved (Prahalad & Ramaswamy, 2004a).

The provider and the customer, or the consumer, have separate roles in production and consumption; the market is a place where only exchange take place (Prahalad & Ramaswamy, 2004a), and the value of the exchange, referring to the price of the product, is the monetary amount realised when the exchange takes place (Bowman & Ambrosini, 2000). Thus, the concept of “value-in-exchange” represents a view that the provider is the main driver of creating value through developing, manufacturing, communicating and delivering value to the customers. The provider captures part of the value by pricing the goods (Eggert et al., 2018) and the customer is the creator of value when the product or service is in use; that is, when consumption of the product or service takes place (Grönroos, 2008).

However, the value-in-exchange view has gradually shifted away from the provider to the customer, away from tangibles and towards intangibles, such as information, knowledge and skills, but also towards interactivity and connectivity and the ongoing relations between the producer and the consumer (Vargo & Lusch, 2004). Value has been defined in various ways, including: “the perceived value is the consumer’s overall assessment of the utility of a product based upon on perceptions of what is received and what is given” (Zeithaml, 1988, p. 14); “buyers’ perceptions of value representing a trade-off between the quality of the benefits they perceive in the product relative to the sacrifice they perceive by paying the price” (Monroe, 1990, p. 46); and the “worth in monetary terms of the technical, economic, service and social benefits a customer company receives in exchange for the price it pays for a market offering” (Anderson & Narus, 1998, p. 54). The above definitions of value have some commonalities; for example, customer value is integral in or connected to the use of the product, and the value is not determined by the producer but perceived by the customer (Woodruff, 1997). As a result of this shift from a provider to a customer view, providers not only think about how to add value in their part of the chain, but also focus on the value-creating system itself, meaning all actors – providers, partners, and customers – and co-produce value (Normann & Ramírez, 1993).

The concept of “value in exchange” is advanced to “value-in-use according to service logic” (Grönroos, 2008, p. 308), and Grönroos and Voima (2013, p. 144) defined value as “value-in-use, created by the user (individually and socially), during usage of resources and processes (and their outcome)”, meaning that value occurs after the exchange has taken place and, in the customer’s domain, by integrating acquired resources and the customer’s own resources. The present thesis uses Grönroos and Voima’s (2013) definition of value. In value-in-use according to the service logic, the provider acts both as a value facilitator by providing customers with resources (goods, information, services) but also as a value creator by directly interacting with their customers’ value-generating processes. The customer is the main value creator and uses the resources given from the provider, and if necessary, adds other resources and competences held by the customer (Grönroos, 2008). The main characteristics of goods-logic and service logic are summarised in Table 2.

**Table 2 – Goods logic adapted from Vargo et al. (2008) vs. Service logic adapted from Grönroos and Gummerus (2014)**

	<b>Goods logic</b>	<b>Service logic</b>
Value driver	Value-in-exchange	Value-in-use
Creator of value	Providers, with input from organisations in the supply chain	Providers, partners, and customers
Process of value creation	A process where providers implant value in ‘goods’ or ‘services’,	A process including actions by all actors e.g. providers, partners and customers
Role of provider	Produce and distribute goods and service	Propose and provide goods and service, co-create value
Role of customers	To consume the value created by the provider	Integrate resources provided by the provider with other resources and knowledge to extract value

Drawing on research about service strategies in business-to-business settings, relations are not only about delivering a customised and integrated combination of goods and services (Tuli et al., 2007). Instead, Tuli et al. (2007) argued, a customer solution should be viewed as four relational processes taking place between the provider and the customer: requirement definition, customisation and integration, deployment, and post-deployment support. Viewing a customer solution as a set of these four relational processes will arguably enhance a provider’s possibilities to create and deliver even greater value to the customer, but also to better communicate the value that can be derived from the solution (Tuli et al., 2007). Furthermore, it is argued that a strong relationship with customer representatives, at different levels should be established in order to facilitate counselling (Tuli et al., 2007), but also to determine the unique customer solution (Eggert et al., 2018).

In a provider–customer relationship Ulaga (2003) identified eight drivers that can be used to shape the relationship: product quality, service support, delivery, supplier know-how, time-to-market, personal interaction, direct product cost, and process costs. These drivers are considered to be possible differentiators in order to gain key supplier (provider) status in a business-to-business relationships. Among the value-drivers, service support and personal interaction were ranked as core differentiators, followed by supplier’s know-how of the customer and the ability to improve customers time-to-market (Ulaga & Eggert (2006). Ulaga and Eggert (2006) also concluded that relationship is a stronger differentiator than cost considerations in a business-to-business setting, where cost is viewed as a hygiene factor for being listed as a supplier, while relationship benefits are decisive when nominating so-called key suppliers (Ulaga & Eggert, 2006).

## **2.6 Value co-creation**

Compared to the classic value-in-exchange process, where providers produce and customers consume, where products and services contained value that was exchanged between the provider and the customer, and value creation occurred within the provider domain (Prahalad & Ramaswamy, 2004b), value co-creation involves providers and customers interacting and jointly creating value through collaborating in processes for defining, producing and consuming (Grönroos, 2008; Payne et al., 2008). The value co-creation view focuses on the provider–customer interaction and all instances of interaction are argued to be important (Grönroos, 2006;

Prahalad & Ramaswamy, 2003), and Grönroos and Gummerus (2014, p. 210) defined value co-creation as:

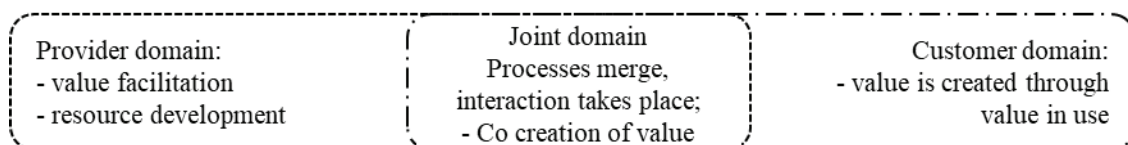
“a joint process that takes place on a co-creation platform involving, for example, a service provider and a customer, where the service provider’s service (production) process and the customer’s consumption and value creation process merge into one process of direct interactions. In this merged process, the service provider may engage with the customer’s value creation and, through joint co-creational actions, influence the customer’s creation of value-in-use.”

The provider and customer are configured by people, organisations, methods, languages, etc. that together form a service system (Maglio et al., 2009) or a so-called co-creation platform (Grönroos & Gummerus, 2014) upon which value co-creation takes place. Compared to value-in-exchange, the roles of the provider and the customers are extended when co-creating value (see Table 3).

**Table 3 – Roles in the value generation process (Grönroos & Gummerus, 2014, p. 208)**

Role	Description
Provider	“As service providers, through all their actions and interactions with users (e.g. customers), firms strive to support users’ everyday processes in a way that facilitates (or contributes to) users’ value creation.”
Customer	“Users (e.g. customers) integrate resources acquired from a provider with other necessary resources in their possession and apply knowledge and skills held by them in a process that renders value.”

The ‘value generation process’, describing value creation and co-creation, is divided into three domains: the provider domain, the joint domain, and the customer domain (Grönroos, 2011) (see Figure 4). In the provider domain, the provider independently develops and provides resources that offer the potential to support the customer’s value-in-use activity. The customer domain is where the customer independently creates value as value-in-use. Even if this domain is closed for the provider, co-creation can take place between the customer and its own ecosystem. Finally, the joint domain, or the ‘platform for co-creation of value’, is where the direct interaction between the provider and the customer takes place. In the joint domain the provider’s and customer’s processes become merged and are carried out concurrently and in interaction. These merged processes allow the provider to participate in their customer’s value-creating process, making the provider a co-creator of value (Grönroos, 2011).



**Figure 4 – Value generation process, adapted from Grönroos (2011)**

However, a move from a provider-centric view to one based upon co-creation brings certain challenges (Ramaswamy & Ozcan, 2018). This move arguably requires a transformation in thinking from attributes to value-in-use and from a provider-centric view to a consumer-centric view (Michel et al., 2008). It is also believed to require high-quality interactions between the provider and their customer (Prahalad & Ramaswamy, 2004b) and that the provider manages the integration of resources; that is, instead of focusing on detached relationships, the provider should focus on integrating knowledge within joint processes (Eggert et al., 2018).

To facilitate co-creation of value, four components related to interaction need to be in place (Prahalad & Ramaswamy, 2004b). Firstly, a dialogue, built on an ability and willingness to act on both sides, should take place. In this dialogue, the provider and the customers share their interest and become joint problem solvers. Secondly, both parties must be fully transparent and must balance out any asymmetry in terms of access to information. Thirdly, the customer needs to have access to information from the provider, but also from other customers. Fourthly, and building upon the other components of interaction, the customer must be able to conduct a risk-benefit assessment in order to judge upcoming actions and decisions (Prahalad & Ramaswamy, 2004b). However, according to Grönroos (2011), direct interactions and a simultaneous use of a merged process are insufficient for co-creation of value to take place; just as important are the provider's employees, as they are the ones who interact and communicate with the customer, and their competence in understanding their customers' needs and expectations. According to Waseem et al. (2018), the quality of the direct interaction depends on mutual trust, clarity, listening, feedback, equality of treatment and feedback.

As defined in Section 2.1, quality is the “ability to satisfy, or preferably exceed, the needs and expectations of the customer” (Bergman & Klefsjö, 2010). However, the above discussion shows that it is not only about the expected or experienced quality in the product or service itself, but also about quality in the interaction between the provider and the customer. The following section presents an account of service quality, followed by an account of the augmented service offering as a means of delivering a more complete experienced service quality.

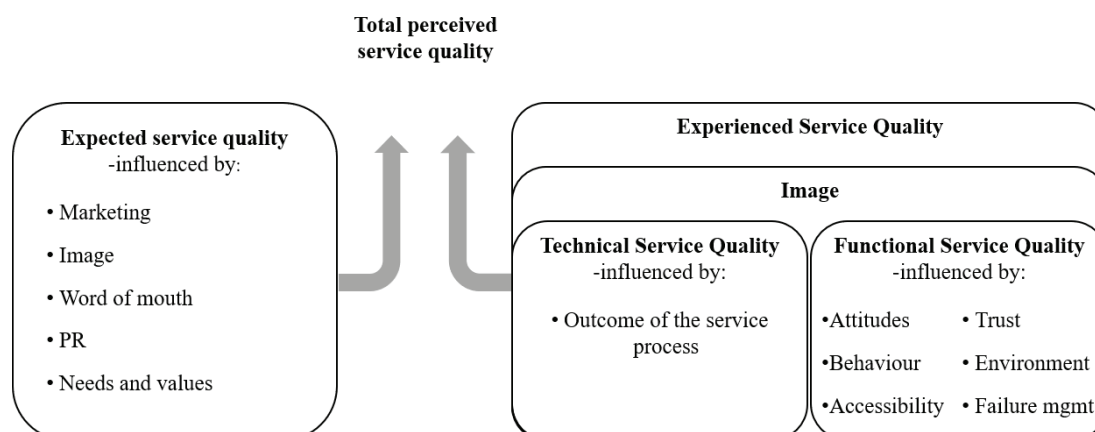
## 2.7 *Service quality*

Quality in service is about a customer's perceived quality of a given service and is argued to be the outcome of an evaluation where the customer matches his or her expectations of the service he or she will receive with the actual experienced service (Grönroos, 1984; Parasuraman et al., 1988). The experienced service quality was initially proposed to consist of only two factors: instrumental performance and expressive performance (Swan & Combs, 1976), where the former relates to the technical result of the service production process and the latter relates to the psychological level of the performance. Swan and Combs (1976) argued that the prerequisite for customer satisfaction was a satisfactory instrumental performance. However, Grönroos (1984) later argued that the expressive performance (that is, functional service quality), and not only the instrumental performance (that is, technical service quality) must be taken into consideration in order to reach acceptable levels of customer satisfaction.

To understand customers' perceptions of the given service, various models have been developed for measuring service quality. The SERVQUAL model (Parasuraman et al., 1988) measured five dimensions of service quality: (1) reliability – performing the promised service correctly and consistently; (2) assurance – service employee's knowledge, courtesy and ability to stimulate trust and assurance; (3) tangibles – service employee's presence, their equipment, and their physical facilities; (4) empathy – providing individualised attention and care to the customer; and (5) responsiveness – willingness to deliver quick service and help customers. The model for service quality referred to in this thesis, is the total perceived service quality model (Grönroos, 1988). This model consists of two main dimensions: experienced service quality and expected service quality; see Figure 5. Experienced service quality is built upon three sub-dimensions: the technical quality of the service, the functional quality of the service, and the image of the service provider (right-hand part of Figure 5). The technical quality, or the *what*, mainly consists of the outcome of the service process. The functional service quality (the



how) consists of components such as attitudes and behaviours in the service provider, accessibility to the service, and the trustworthiness of the service and the provider. Components such as the environment where the service is provided, and the provider's capability to handle failures and mistakes are also included in the functional service quality (Bitner et al., 1990). The other dimension of the total perceived service quality model (Grönroos, 1988) is expected service quality, which is a function of several factors, including market communication, word of mouth, corporate/local images and the actual customer needs. Based on the above descriptions, the total perceived service quality is reflected in the gap between the experienced service quality and the expected service quality (Grönroos, 1988); see Figure 5.



**Figure 5 – Total perceived service quality model, adapted from Grönroos (1988)**

In order to manage service quality, the gap between the experienced service quality and the expected service quality should be as small as possible and two things are considered important. First, the promise of the service, shaped by e.g. word of mouth and marketing activities, should be realistic. Second, managers need to understand how technical and functional service quality can be developed and influenced, but also how these two components are experienced by the customer (Grönroos, 1984).

## **2.8 Augmentation of a service**

A basic service consists of three parts (Grönroos, 1987). The first is the core service, representing the reason for being present. The second is the enabling services, enabling the use of the core service. If this part of the core service is left out, the service package may collapse. The third part is the enhancing services, which are used to increase the value of the core service. If the enhancing service is left out, the core service can still be used but is less attractive (Grönroos, 2016). However, the basic service mainly represents the technical dimension of the experienced service quality, not the complete experienced service quality (Figure 5). To build a more comprehensive service offering, reflecting not only the technical dimension of the experienced service quality, but also the functional service quality – that is, the process view of the service delivery (Figure 5) – Grönroos (1987) added three parts to the basic service: accessibility, interaction and participation. Accessibility depends on the competence of the provider personnel, timetables and time used to perform different tasks, but also on the tools, equipment and documents used. Interaction with the service provider is reliant on the communication between the provider and the customer, which in turn depends on the behaviour of the provider's employees, their attitudes, what they say and do, and how they say and do

things. Finally, by enabling customers to participate, customers may impact the service and become co-producers of the service, and hence co-creators of value; see Figure 4.

From a study of the augmented service offering in the context of the financial sector, Storey and Easingwood (1998) proposed that, from a sales and profitability point of view, improvements of the basic service open new and enhanced possibilities (opportunities). However, the impact on sales and profitability was very modest. On the other hand, changes in the augmentation of the basic service – that is, the service delivery process, which for example could be the accessibility and interaction parts – was shown to have a large impact on sales and profitability and argued to help an organisation perform better and more effectively (Storey & Easingwood, 1998). Sanghera et al. (2002) presented similar findings, confirming that the interaction between the buyer and seller clearly impacted the resulting competitive advantage. That study indicated that the intelligence, commitment and enthusiasm of the provider's employees were perceived as vital for this interaction and, therefore, that service development should not only focus on the basic service. Instead, more importantly, service development should focus on communication, staff and customer interactions, staff training and customer experience, which are the prerequisites for augmentation of the service (Storey & Easingwood, 1998).

## ***2.9 Synthesis of the frame of reference***

This chapter has discussed the extant research regarding quality management, quality management systems and the audit process, but also earlier research on perceptions of quality management systems and audits. This was followed by an account of suggestions for what practices that can be implemented to improve auditing of QMS to add more value, and accounts related to the concept of value, service quality, and finally an account for the augmented service. Grönroos (1988) argued that it is not enough to address the technical service quality (the *what*) to contribute to experienced service quality. The functional service quality (the *how*), consisting of components such as attitudes and behaviours, must also be addressed. It has also been argued that changes in the service delivery process, such as accessibility (Storey & Easingwood, 1998) and interaction (Sanghera et al., 2002; Storey & Easingwood, 1998), help an organisation perform more effectively.

Based on the above suggestions for what to improve in auditing, the total perceived service quality model (Grönroos, 1998), and the augmented service offering model (Grönroos, 1987, 2016), this chapter ends with a synthesis of this extant research presented in Table 4. This synthesis allies the two main research areas in this thesis: research on auditing and research on service management. The purpose of this synthesis is three-fold: to show how various parts of the frame of reference relate to each other, to serve as a base for the discussion in Chapter 5 (such as answering the three research questions), and to act as a framework for a proposed augmentation of the audit service.

**Table 4 – Synthesis of the frame of reference, showing how existing audit practices and examples of suggested improvements of auditing can be organised by the use of elements in the augmented service offering model (Grönroos, 1987, 2016). Related RQs are also shown.**

Element and connection to RQs		Key parts in the theoretical framework	
		Existing audit practices and examples of suggested improvements to auditing	Earlier research on service quality and service augmentation
Basic service	<b>The core service:</b>	The core audit service is to perform the audit and deliver the audit conclusion; Step 4 in Figure 2.	The reason for being present (Grönroos, 1987)
	<b>Enabling services:</b>	The enabling audit services include initiating and preparing the audit (Steps 1 and 2 in Figure 2) and activities such as opening and closing meetings (included in Step 3 in Figure 2).	Enables the use of the core service and are mandatory to perform (Grönroos, 1987)
	<b>Enhancing services:</b>	Establishing metrics for measuring audit effectiveness (Piskar, 2006; Elliot et al., 2007), and integrating different types of audits (Hutchins, 2001; Hassan et al., 2019) supports value-adding audits.	Increases the value of the core service, but are not mandatory to perform (Grönroos, 1987)
Augmentation of the basic service	<b>Accessibility of the service (RQ1):</b> Reliant on provider competence, timetables, equipment and documents	Value-adding audits are supported by competence and skills beyond basic auditing skills, such as management experience (Sun et al., 2017), knowledge in finance and environmental issues to better understand business operations (Merrill, 1996), organisation-specific knowledge (Pivka, 2004; Power & Terziovski, 2005; Ramly et al., 2007), and context-related skills and adaptability (Power & Terziovski, 2005; Ramly et al., 2007). Aligning audits to an organisation's processes (Berlitz and Gaelzer, 2009), and customer/auditee-oriented reports (Piskar, 2006; Mahzan and Hassan, 2015) support value-adding audits.	Drawing on the augmented service offering model (Grönroos, 1987) and the total perceived service quality model (Grönroos, 1998), such knowledge and skills, beyond basic auditing skills, should support accessibility of the service (Grönroos, 1987), but also trustworthiness of the service and the service provider; that is, functional service quality (Grönroos, 1988). It will also enhance the assurance of the service, and perception of tangibles (Parasuraman et al., 1988). Providers' (auditors') know-how of the customer is also considered a core differentiator when building a relationship between providers (auditor) and customers (auditees) (Ulaga & Eggert, 2006).
	<b>Interaction with the service provider (RQ2):</b> Reliant on provider behaviour, attitudes and communication	Acting as an integral, objectively fair and sympathetic partner to the organisation (Frei, 1998), and having a positive attitude (Sirk and Popovic, 2015) supports value-adding audits. Furthermore, by establishing good relationships with management and the organisation, auditors can build a deeper understanding of challenges, risks and plans within the organisation (Roth, 2003) before the audit is executed.	Drawing on the augmented service offering model (Grönroos, 1987) and the total perceived service quality model (Grönroos, 1988), suggested provider (auditor) behaviours should enhance the functional service quality (Grönroos, 1988). This will also enhance the perception of provider's (auditor's) empathy and responsiveness (Parasuraman et al., 1988).
	<b>Customer participation (RQ3):</b> Customer impacts the service and becomes a co-producer of the service, and hence a co-creator of value	Creating involvement from management (Alič & Rusjan, 2011; Dale & Askey, 1994; Pivka, 2004; Poksinska et al., 2002) and from functions being audited (Rippin et al., 1994) supports value-adding audits.	Drawing on the augmented service offering model (Grönroos, 1987), creating such involvement from management and the organisations being audited enables the customer (auditee) to participate and impact the service (audit) and become a co-creator of value (Grönroos, 2016).



### **3 Research methodology**

This chapter begins with four sections presenting some of my own background, the research strategy, the research design, and the research process used in this thesis. This is followed by five sections, in which each study is introduced along with its methods for data collection and data analysis. The final section reflects on the research methodologies, including research quality, ethical considerations, and offers an overall discussion on the research methods utilised in this thesis.

#### ***3.1 My background***

After having been an auditor in industry for several years, responsible for both global and local internal and external audit programmes, I felt that an audit must be able deliver something more than just an evaluation of compliance. Therefore, in 2008, my manager and I initiated a major change of the way audits were performed within our organisation. Positive results started to emerge after a few years and the audit concept we had developed and implemented in one part of the organisation became the new concept for auditing throughout the company. Encouraged by the result, I developed an interest in deepening this new knowledge. After writing a master's thesis entitled "Quality audit – from evaluation of compliance to relevant operational improvement" in 2012, my thoughts about becoming an industrial PhD student started to emerge, and in September 2013 I started investigating the possibility of becoming an industrial PhD.

Utilising my experience from having worked with management systems and audits for more than 15 years, and the experience from earlier audit-related improvement initiatives, I started to formulate an idea for a research project focusing on improvements of auditing. My preunderstanding, based on having planned and performed audits around the world, in several different types of organisations, such as development organisations, sales and marketing, finance, and having met auditees with varying perceptions of audits, helped me describe and structure my ideas. In September 2014, after refining the idea further, I received approval from my employer and started the journey towards becoming a PhD at the Department of Technology Management and Economics at Chalmers University of Technology. Most of my PhD studies have been performed alongside my daily work, which has enabled me to have a close and lasting connection to the audit environment.

#### ***3.2 Research strategy***

The concept of research strategy in this thesis is built upon several components: (1) a research approach, (2) my philosophical assumptions about reality, (3) an overall choice of research strategy, and (4) my personal values and practical considerations. First, my overall research approach – that is, the way I have understood and used theory, is inductive, which means that by making generalisable interpretations out of observations, the research leads to theory (Bell et al., 2018). However, as argued by Bell et al. (2018), the chosen approach is not always as linear as described in the textbooks, and while this is a compilation thesis, deviation from this overall approach is found in the included papers. Study 1 utilised an iterative approach; after reflecting on the first set of data from two surveys, interviews were conducted to validate the initial results. Studies 2 and 3 utilised an abductive approach, which involved moving back and forth between the literature (theory) and the social world of auditing. This movement between empirical evidence and literature is considered important in both quantitative and qualitative studies to enable development of theories (Shepherd & Suddaby, 2017).

Second, it is also important to understand what philosophical assumptions that have affected this research. From an ontological perspective – that is, the understanding of what reality is (Bell et al., 2018) – my view is both objectivistic and constructionistic (subjectivism). The audit process is well defined and is arguably an object independent of the actors in the process. Auditors are trained according to certain curriculums, acts within the audit process and are possible to observe. Furthermore, there are assigned roles, regulations and standardised procedures for auditing, and auditors are appointed to these roles. However, the audit process, the auditors, and the behaviour of auditors are affected by outside factors such as auditees and the context in which auditing takes place, so auditing could be argued to be in a constant change and constructed by the participants. Moreover, given my background as an auditor, I present a specific version of the reality; that is, my interpretation of the audit process and what needs to be improved to support value creation beyond assuring compliance to standard requirements, which is subjective. Keeping in mind the overall research approach and duality in the ontological stance, my epistemological perspective, which is my understanding of how I can get to know reality (Bell et al., 2018), corresponds to being a pragmatist (Mitchell, 2018). This has resulted in different combinations of research methods being used to find answers to research questions and purposes in the included papers (see Section 3.3).

Third, research strategies can be qualitative, quantitative, or mixed (Bell et al., 2018). Given that the focus in this thesis is on auditing of QMS, which is highly dependent on humans acting and interacting and their perceptions of auditing, words and images have been more important than quantification. Thus, the qualitative research strategy have been well suited to studying how auditing of QMS can be improved and contribute to value creation. Qualitative research strategy focuses on individuals' interpretations of their social reality to establish an understanding, so words are emphasised rather than numbers (Bell & Bryman, 2011). Furthermore, theory is not used in this research for hypothesis testing (deductive). Based on the identified research gap – a lack of examples describing how auditing of QMS can be improved and contribute to value creation – the understanding is arguably too limited to start from a hypothesis. Instead, as described above, the relationship between theory and research is inductive (which means that observations and interviews about changes in auditing are used for theory generation), or abductive, which involves moving between the literature (theory) and the social world, which fits well with applying a pragmatic approach (Bell & Bryman, 2011). However, even though the qualitative research strategy is at the core of this thesis, elements of quantitative research strategy are used in data collection and data analysis in Studies I, III and IV. Hence, I have also used mixed method research in this thesis.

Fourth, my personal values and some practical considerations have also impacted the research strategy. Personal values can be a form of preconception (Bell et al., 2018) and may impact at several points in the research process. My experience from auditing management systems was an eye-opener, but also the prime reason for the choice of this research area, and the formulation of the overall purpose of this thesis. I believe that my background as a practitioner affected my choice of methods and formulation of research design, but also my interpretation of data and the conclusions I have reached. These choices have also been affected by the fact that I am an industrial PhD student. From a practical point of view, this has meant that I have had access to data from different organisations and sites, which has opened up certain possibilities. On the other hand, this relationship with different organisations means that I already have certain values, pre-understandings, role dualities and may have been involved in organisational politics. To ensure research quality and to handle ethical considerations in such a research situation, I have engaged in continuous reflections and discussions regarding possible risks and mitigations; see Section 3.10 and reflections on research methodology.

### 3.3 *Research design*

A research design is defined as a framework for collecting and analysing data to answer a stated research question (Bell & Bryman, 2011; Flick, 2014; Yin, 2014), and even though there are differences in what constitutes a research design, it often contains the following common activities: (1) setting goals for/a purpose with the study, (2) designing research questions, (3) defining a theoretical framework to inform and support the research, (4) collecting and analysing data, and (5) writing up findings and securing quality. Furthermore, research commonly refers to different research designs, such as case study design, comparative design, retrospective design and longitudinal design (Bell & Bryman, 2011; Flick, 2014). Among the aspects that should be considered when selecting the correct research design are the fit between RQ and the design, the fit between researchers and the design and whether the design is appropriate to the field and participant settings (Flick, 2014). The traditional linear research logic may only fit a qualitative research design on a few occasions (Flick, 2014; Maxwell, 2012). Instead, a more interactive approach is promoted, and it is proposed that the design of a qualitative study is not something that you can find “off-the-shelf”; instead, it is a “do-it-yourself” model that needs constant review, and adoption if needed, to fit the purpose (Maxwell, 2012). Bell and Bryman (2011) also discussed this iterative approach, describing a looping research process involving interpretation of data, comparison with the theoretical framework, rephrasing of the research questions and then further collection of data.

In this thesis I have focused on a contemporary problem, which is argued to be suited for case study design (Yin, 2014). How an audit can be improved is a “general problem” and in such a situation a case study design is suitable for capturing the audit process in a detailed way to understand how it can be further advanced (Bell & Bryman, 2011). Furthermore, the case study design is not only suited for exploratory research, but also for descriptive research (that is, to describe a situation) and explanatory research (that is, to examine explanations for why specific events have happened) (Yin, 1981). The present thesis has used all three types of research: exploratory, descriptive and explanatory.

Different data was required in order to depart from the three research questions. To answer RQ1, where the focus is on how accessibility of the audit can be improved, data was required on how organisations have improved auditing, auditees perceptions of auditor’s competence, context adaptability and the tools used in auditing. However, accessibility is perceived by the auditee, so data on what influences auditee satisfaction was also needed. To answer RQ2, which focused on how the interaction between the auditor and the auditee can be improved, it was necessary to obtain auditees’ perceptions of auditor’s behaviour and attitudes, but also data on factors that enhance auditee satisfaction. Finally, in answering RQ3 on how participation in the audit can be improved, I needed data on how auditees are invited to and can participate in the audit process, and how this supports auditee satisfaction. Given the above needs for various types of data, several different data collection methods were used, such as studying organisational documents, performing observations and interviews, and using questionnaires. These data collection methods are all typical data collection methods included in a case study design (Eisenhardt, 1989), such as that used in Studies I, II and III. Table 5 summarises the five studies, including a reference to which RQ each study address, the chosen research design and corresponding paper in which the results have been presented.

**Table 5 – Summary of studies; addressed RQ, study purposes, corresponding research designs and papers**

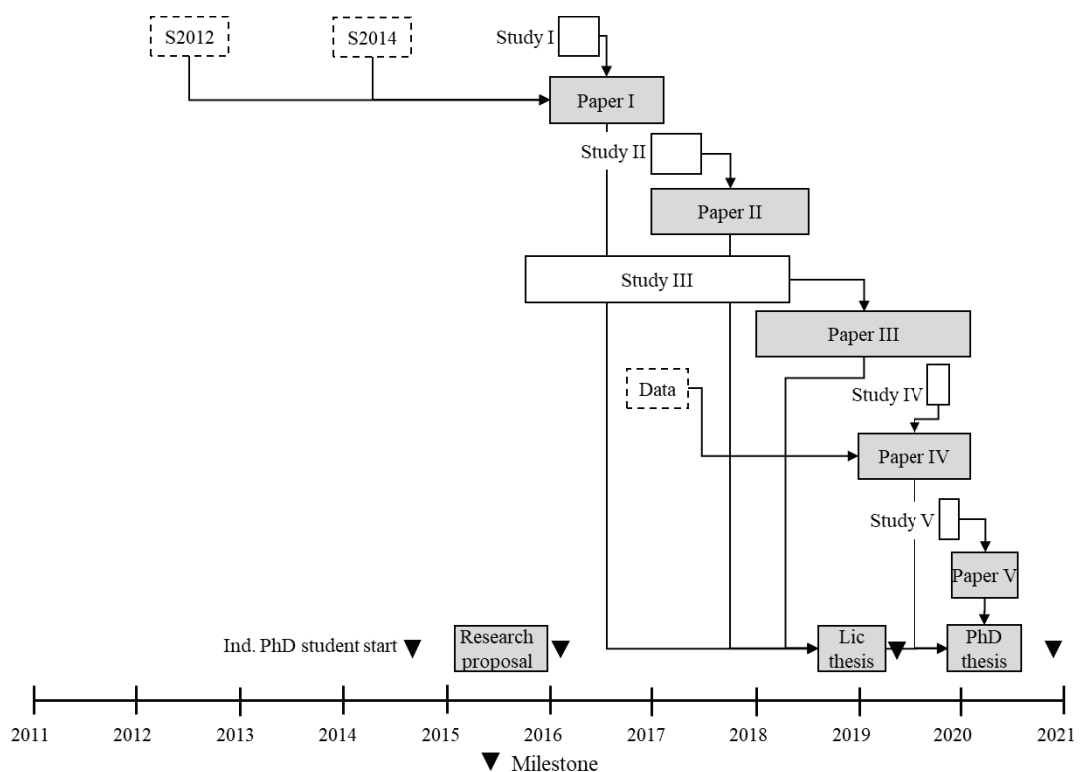
Study	I	II	III	IV	V
Addressed RQ	RQ1, RQ2, RQ3	RQ1	RQ1, RQ2, RQ3	RQ2	RQ1
Purpose	To understand how internal audits can be carried out in a way that is perceived to add value beyond verifying compliance towards a standard.	To study whether internal auditors adapt to explorative processes when auditing ISO 9001 process management requirements.	To explore factors that contribute to auditee satisfaction in external audit fieldwork.	To investigate how different types of uses of QMS correlate with management perceptions of quality management in terms of respect, cost, and strategic importance.	To review empirical research on internal audits of ISO 9001 to synthesise advice for value-adding internal audits, as well as to establish a research agenda.
Research design	Exploratory research using a single-case study of one organisation's improved audit process with an action research design and a longitudinal element.	Exploratory research using a single-case study of one organisation's auditor's context adaptability with an abductive approach using systematic combining.	Explanatory research using a single-case study of one organisation's auditees satisfaction with auditing with an abductive approach.	Descriptive research by a cross-sectional study of large-sized organisations and quality managers on management perceptions of QM.	A systematic literature review of existing research on internal audits of ISO 9001
Data collection methods	Two surveys by self-administered questionnaires Observations Study of organisational documents Semi-structured interviews	Study of organisational documents Semi-structured interviews	Survey by a self-administered questionnaire	Survey by a self-administered questionnaire Semi-structured interviews	Literature search in Scopus and Web of Science
Data collected	Audit process documentation Audit plans Audit reports Perception of the audit process and audits from both auditors and auditees	Auditors' lists of questions Audit reports Auditors' perception of their adaptation	Auditee's perception of the fieldwork activity in the audit process	Employees' perception of the QMS, depending on different usage of the QMS	Existing research on internal audits of ISO 9001
Data analysis methods	Document studies Coding of interviews	Document studies Pattern matching	Bayesian networks	Spearman's rank correlation coefficient QSR NVivo using a coding scheme	Systematic review proposed in Prisma (Moher et al., 2009)
Paper	I	II	III	IV	V

The findings from the five studies presented in Table 5 have resulted in five papers. As can be seen from Table 5, each study has resulted in one paper each and Studies I and III support answering more than one RQ.

In the next section I present my research process, which provides an overall view of the different studies and papers. This is followed by five sections that introduce each of the five studies together with a more detailed description of the utilised research methods; that is, data collection and data analysis.

### 3.4 Research process

During my first 18 months as an industrial PhD student, my main focus was on formulating my research proposal. This research proposal was presented and approved at the beginning of 2016; see Figure 6.



**Figure 6 – The research process including studies, papers and thesis, and major milestones**

Soon after this milestone, Paper I was initiated. Paper I, which is co-authored, builds upon two surveys, S2012 and S2014, that were initiated before I started as an industrial PhD, and one series of interviews (Study 1) performed during the work with Paper I. The initial purpose of surveys S2012 and S2014 was not to act as input to a research project, but as a follow-up to several changes in a company-wide internal audit process in which I had been instrumental in designing and implementing several changes. Paper II, which is single-authored, continued to focus on internal auditing and zoomed in on how internal auditors managed to adapt to exploitative contexts, such as monthly financial processes with reoccurring and standardised step-by-step activities, and explorative contexts, such as development processes with a large portion of uncertainty. In Paper III (co-authored) the focus shifted from internal to external auditing, and factors that create auditee satisfaction during the audit fieldwork (Step 3, Figure 2). By co-authoring Papers I and III my writing process was gradually enhanced.



Papers I, II and III formed the foundation for my licentiate thesis, which was presented in May 2019; see Figure 6. At the time of writing up my licentiate thesis I had already started to work on Paper IV (co-authored). This paper did not focus on audits per se, instead focusing on the context of auditing; that is, quality management systems. Paper IV is based upon two sets of data, the first of which had already been collected. The need for a second set of data was born from a need to confirm and deepen the first set of quantitative data with qualitative data. Finally, in Paper V (co-authored) I returned to internal audits of quality management systems and Paper V is based upon a literature review. To summarise (see Figure 6), my journey as industrial PhD student will have spanned approximately six years, and my research project includes five studies and five papers, one research proposal, one licentiate thesis and one doctoral thesis.

Referring to table 5 and Figure 6, the following five sections introduce each of the five studies, together with a description of data collection and data analysis.

### **3.5 Study I**

Study I mainly relates to the first, second and third research questions in this thesis. As the evolution of an audit process is dynamic and complex and requires an understanding of both the context and the process, a qualitative research strategy was chosen. The organisation studied was a global company in the consumer electronics sector that had improved its audit process. The company is certified for ISO 9001, ISO 14001 and other industry-specific standards. However, this paper focused on the ISO 9001 standard. As the first author, I was employed at the company, with global responsibility for management system-related external auditing. In Study I, I was involved both as an employee and as a researcher, and the company was involved not only in the research but also in the implementation of the results; therefore, the research approach in Study I was based on action research, which meant viewing the meaning of research not only as describing, understanding and explaining an empirical case but also as changing a practice (Bell & Bryman, 2011; Coghlan & Brannick, 2008).

#### **3.5.1 Data collection**

To strengthen the reliability of the findings, several data sources were used (Bell & Bryman, 2011; Eisenhardt, 1989; Flick, 2014; Yin, 2014): participatory observations, organisational documents, questionnaires and interviews. Data was collected in three phases: (1) involvement as action researcher, (2) studies of questionnaires and internal documents, and (3) key informant interviews. Initially, during the involvement as action researcher, I led and observed the change of internal audit practices and, at the same time, acted as lead auditor. The observations focused on auditor meetings and conduct of audits. Using this set-up, feedback was received directly from the auditees but also from questionnaires performed during the change. This was complemented by studies of the result from two questionnaires and organisational documents such as audit plans and audit reports. Finally, to understand whether the change had an impact on the perceived business relevance of the internal audit, five interviews with key informants (senior vice president, senior managers and specialists) were conducted onsite by both authors in April 2016. The interviews lasted between 27 and 51 minutes and were all recorded and transcribed. The work in the three phases of data collection covered a considerable length of time, which made it possible to study not only the change and implementation of new auditing practices but also the perceptions of these new practices after implementation. However, this lengthy period may also have affected whether the change in perception of auditing only resulted from new auditing practices, or whether the change in perception also resulted from other factors, such as change in management or employee rotation.

In order to mitigate this, the choice of key informants was guided by the fact that they should have been involved in audits conducted both before and after the implementation of the changed audit practices, so they could reflect on the real changes of new auditing practices.

### *3.5.2 Data analysis*

The data analysis in Study I was performed using the so-called Pattern Matching method (Mills et al., 2009), comparing patterns within the data collected in the two first phases of the data collection with data from key informant interviews and prerequisites for value-adding audits in earlier research. Both authors of Paper I were involved in the data analysis. I was internal, with several years of organisational knowledge, insights and experience from the company and from being an auditor. The second author was external to the company, acting as an external investigator. Given that I was internal and had performed several different roles throughout the action research cycle, was a member of the organisation responsible for auditing, and had performed audits in the organisation (meaning I had met with the interviewees previously), this setup served to mitigate the effects of bias and improved internal reliability (Bell & Bryman, 2011). The possible effects from being an internal, and having pre-understanding is further discussed in Section 3.10.3.

## **3.6 Study II**

Study II mainly relates to the first research question in this thesis. The case studied was a global company in the consumer electronics industry, which operates in a fiercely competitive environment where product life cycles have become shorter and shorter and the need for quick adaption to new and changing requirements has increased over the years. Since 2014, new explorative organisations have been added to the company, and consequently to the audit programme. Study II focused on internal auditors' adaptability to explorative processes when auditing ISO 9001 process management requirements. Explorative processes include those for product design, portfolio planning and business development. These processes are characterised by explorative attributes such as innovation, growth, experimentation and search (March, 1991; O'Reilly & Tushman, 2004). Because auditors' adaptability to explorative processes is dynamic and complex to study, a qualitative approach was also chosen in this study (Flick, 2014). The research design used in Paper II was explorative, and systematic combining (Dubois & Gadde, 2002) was used. Earlier research and theories on auditing of explorative processes in an organisation are scarce. However earlier research on process management and exploration does exist. Therefore, systematic combining – that is, a simultaneous evolvment of a theoretical framework, empirical fieldwork and case analysis – fitted this study.

### *3.6.1 Data collection*

Study II used multiple data collection methods, including studies of different organisational documents and interviews. The first phase of the data collection was a review of auditors' lists of questions used in internal audits. This was followed by a second phase, including five semi-structured interviews with lead auditors and auditors to understand how the audit process was adopted to the characteristics and contexts of the audited organisation or process. The interviews were performed in April 2017 and lasted 47–77 minutes and were all recorded and partly transcribed. To improve generalisability, these interviews also included informants from outside the European part of the organisation. In the third phase of the data collection, six audit reports from auditing of typically explorative processes were chosen using purposive sampling (Flick, 2014). The use of different data collection methods enabled triangulation of several data sources, which has been found to increase reliability (Eisenhardt, 1989).

While a sample of five interviews could be considered quite limited, the aim was to find and interview the same auditors who had initially prepared the lists of questions (studied in the first data collection phase) and had later written up the audit report (studied in the third data collection phase), while this made it possible to track whether the auditors had used a consistent approach throughout the audit process when auditing an explorative process.

### *3.6.2 Data analysis*

As in the first study, the Pattern Matching method (Mills et al., 2009) was used to analyse the collected data from audit reports in Study II and explore whether auditors adapted their way of auditing requirements for process management practices to processes characterised as explorative. A pattern matching tool was created using process management requirements in the ISO 9001:2008 standard, which were mapped against the key practices of process management, namely process design, process control and process improvement. The mapping was validated by two trained lead auditors, after which some corrections were made. This pattern matching tool was then utilised to categorise audit findings from the selected audit reports towards the three process management practices. The author's knowledge, insights and experience in internal auditing as a trained and certified lead auditor for both ISO 9001 and 14001 standards were helpful during the data analysis and in activities such as interpreting audit findings and classifying findings using the pattern matching tool. Although such knowledge naturally introduces bias, the overall purpose of the study and the access to several types of data (auditors lists of questions, interviews with the corresponding auditors, and studying their audit reports) suited the aim of covering a range of evidence for how the auditors adapted to explorative processes.

## *3.7 Study III*

Study III mainly relates to the first, second and third research questions and includes one company and its interaction with one of its certification bodies. The focus of the study was on factors that contribute to auditee satisfaction in the audit fieldwork. Previous research on audits has pointed to the need for contextual understanding and the criticality of the relationship between an auditor and the auditee (e.g., Power & Terziovski, 2007), so audit satisfaction is shaped through interactions between parties in a specific context. The case in this study was a global company in the consumer electronics industry certified for ISO 9001, ISO 14001 and other industry-specific standards. Part of holding the ISO 9001 certificate involves a yearly audit programme including internal (first party) and external (third party) audits.

### *3.7.1 Data collection*

Data was collected by surveying auditees' perception of audits, focusing auditees' perceptions of the fieldwork activity performed by a third-party certification body. Information about the questionnaire was given in the opening meeting, the first part of Step 3 (Figure 2), conducting the audit. Before handing out the questionnaire in the closing meeting, the last part of Step 3 (conducting the audit), the auditees were informed about the purpose of the questionnaire and that the questionnaire should be filled out anonymously. The questions (statements) used in the questionnaire included questions corresponding to all five dimensions of service quality used in the SERVQUAL model (Parasuraman et al., 1988) and targeted auditees' perceptions of the opening meeting, the interview, the closing meeting and a final overall rating question.

By applying a survey method for data collection, in contrast to, say, in-depth interviews, the data used in Paper III were collected from audits taking place at different sites in different



countries from October 2015 until, and including, May 2018. A total number of 208 responses were used in Paper III. During this period there were no changes in certification body or in the setup of auditors. The same version of the ISO 9001 management system standard was utilised during the complete period. This provided a stable environment for the surveys to take place in. On the other hand, what was continuously changed was that the auditors developed their competence about the organisation being audited. Furthermore, the organisation studied, and its employees, became more acquainted with the auditors and, for example, their questioning techniques. While auditor competence was one of the independent variables studied, this involvement has probably affected scoring in surveys throughout the time period. However, despite risks with time dependent changes, the period of time under study enabled a larger set of data and represented a wider range of auditees; that is, perceptions of audits.

### *3.7.2 Data analysis*

The questions, which focused on the fieldwork of the external audit, were used to build the model for the data analysis. This model was built upon one of the authors' experiences of auditing as well as previous research on auditing. The model was then tested in several iterations to find the model that best represents the audit process. Basing such a model on audit experience from one individual could result in bias, but combining this type of experience with a standardised process – the audit process (see Figure 2) – reduces such risks when building such a model. Ultimately, the model consisted of one dependent variable (effect), three primary independent variables (direct causes) and 15 other independent variables (indirect causes). The satisfaction of the audit (the main dependent variable) was measured by an overall score in the survey used. All values of the independent variables were discrete or categorical, which resulted in large set of possible combinations to explain the variation in the dependent variable (overall score of the audit). To handle such a potentially large set of combinations, probabilistic graphical models such as Bayesian networks (Pearl, 1988) are suitable. Bayesian networks also offer a way to deal with reasoning under uncertainty (Azizi et al., 2013), study different what-if scenarios and handle absent data. This possibility was well suited for this paper, while a few respondents did not completely answer all questions in the questionnaire due to irrelevance or other unknown reasons. Furthermore, being able to study different what-if scenarios, such as the impact of auditor's knowledge on first-time auditee's satisfaction with the audit, made it possible to study different real-life cases, which were defined based on one of the authors' experiences from auditing.

## **3.8 Study IV**

Study IV mainly relates to the second research questions in this thesis. The focus was to investigate how different types of uses of QMS correlate with management perceptions of quality management in terms of respect, cost, and strategic importance. How the organisation uses QMS influences management's respect for, and view of quality management, such as a business management- and improvement-oriented use of QMS correlates with management viewing quality management with respect, and as strategic and not cost-driving (Maguad, 2006). While auditing is a central part of establishing and maintaining a QMS, auditors' use of the QMS can also, arguably, influence management's respect for, and view of quality management.

### 3.8.1 *Data collection*

To test the three defined propositions, a mixed method approach was used (Creswell et al., 2007) and the research team had access to two set of data. First, the research team had access to quantitative data, collected in a survey that had been conducted earlier.

This survey instrument was originally distributed by e-mail to eight large-sized organisations in Sweden, both private and public, with more than 1000 employees. Two-thirds of the respondents represented manufacturing companies, and the remaining respondents represented service providers. The respondents that were chosen in this earlier survey had responsibility for quality management work and held dedicated time for these tasks. A total number of 249 responses were collected, giving a response rate of 81 per cent. For Study IV a subset of questions was used in the analysis, which were only asked of 108 respondents with management responsibilities. Second, the research team performed 12 semi-structured interviews with quality mangers from both product- and service-focused organisations, which lasted for 40–90 minutes. To ensure relevant knowledge regarding perception of QM, and specifically of QMS, all informants chosen for an interview had dedicated time and responsibility for work related to QM, but also direct access to upper management levels.

### 3.8.2 *Data analysis*

In the analysis of the quantitative dataset, it was necessary to exclude those responses with missing values and those to which the answer “no opinion” were given. After doing so, 99 responses remained and the ordinal variables were evaluated using the Spearman’s rank correlation coefficient (Bell & Bryman, 2011). For the analysis of the interview data, transcriptions were uploaded into the QSR NVivo 12. Data was coded using a coding scheme developed from the three propositions regarding different types of use of QMS: as a tool for daily management, as a support for developing the quality of the offering, or as a tool for documentation and standardisation. Interview data were then analysed using a thematic text analysis built on a cross-case analysis strategy (Miles & Huberman, 1994). All interviews were read through, then the data were coded, and the coded content were analysed and similarities or differences between the organisations were identified and then evaluated against the theoretical groundworks to enable conclusions.

Initially, Study IV was only based upon the quantitative data set. However, after analysing this set of data set, it was found that some correlations between statements regarding the function of QMS and if management view QM as a cost, with respect, or as strategic important was close to zero. Adding the semi-structured interviews enabled triangulation of data and the different levels of correlation were more distinct but still somewhat small. More robust results (that is, more distinct correlations) could have been achieved by performing further interviews with quality managers. We could also have considered adding interviews with managers who had no direct involvement with QM work.

## 3.9 *Study V*

Study V mainly relates to the first research question in this thesis. Empirical research on internal audits of ISO 9001 was reviewed using a systematic literature review, with the objective of synthesising advice for value-adding internal audits. Based on this synthetisation a research agenda for future research about internal audits ISO 9001 was also formulated.

### 3.9.1 *Literature search*

The main literature search was performed in Scopus and Web of Science in December 2019. Building on Torraco (2016, p. 418), who suggested that the criteria for selecting literature must be “broad enough to capture the breadth of relevant literature”, the search was not limited to only academic journals, but also included “grey” literature, such as conference proceedings, magazines and book chapters, to keep a broad perspective on the topic in focus.

The search was not limited to a certain time span, but given that ISO 9001 was first introduced in 1987, no publications from before 1987 were found. A total of 258 publications were initially included.

The structuring of the review of the 258 papers was guided by the steps for a systematic review proposed in Prisma (Moher et al., 2009). In the first screening, after removing duplicates, 213 papers were reviewed by titles, by both authors. The second screening, on abstracts, included 178 papers and was done individually by the authors. Screenings were done using a set exclusion criterion; papers would not be part of full paper review if they did not focused ISO 9001, were non-empirical, or addressed other audits than first-party audits, such as financial audits or external audits. In the next step, 78 full papers were reviewed using a coding framework developed in line with the topic and purpose of the study. Prior to the full text analysis, a calibration (Nolan & Garavan, 2016) was done by applying the coding framework on three papers. This was followed by a discussion about the coding process and the applicability of individual codes in the framework. During the full text review of the final 78 papers, both researchers were active. The papers were divided between the authors in such a way that one author did not review a full paper that had previously been reviewed on abstract.

### 3.9.2 *Data analysis*

Finally, 44 papers published between 1992 and 2019 were included in the analysis. First, a descriptive analysis was performed which focused on categories such as year of publication, QMS standard version, applied research strategy and research methods. This descriptive analysis was followed by a thematic analysis guided by the three dimensions for studying change proposed by Pettigrew (1987): context, content and process. Each of these three dimensions formed a theme to which each paper was tied. Based upon a synthetisation of papers, a summary description per theme was formulated showing two main reasons why internal audits should be improved, three main areas to improve in internal auditing, and three groups of suggestions for how to improve internal auditing of QMS. The result of this synthesis also acted as the basis for establishing a research agenda.

Following the above presentation of the five studies, the following section presents accounts of how research quality has been assured, what ethical considerations were taken, and finally a discussion over the methods used in this thesis.

## 3.10 *Reflections on research methodology*

### 3.10.1 *Research quality*

How to assess research quality boils down to three core needs (Flick, 2014). First, the researcher needs to evaluate and assure their results. Second, the readers need to be able to assess what has been presented to them. Third, the reviewer of the research proposal, paper or thesis would like to evaluate the quality of the research in front of them (Flick, 2014). In order to manage this, Bell and Bryman (2011) concluded that there are two important measures for understanding the

quality of research: validity and reliability. However, these two measures are mostly a concern in quantitative studies and cannot be transferred straightforwardly to qualitative studies (Bell & Bryman, 2011). Instead, Lincoln and Guba (1986) proposed using two other criteria, trustworthiness and authenticity, to evaluate qualitative studies. Even if there are elements of quantitative methods in this thesis, it has mainly used qualitative methods. Furthermore, participating researchers and practitioners/experts colour the results from the different studies. Therefore, in this thesis the evaluation of research quality focused on trustworthiness and the four sub-criteria: credibility, transferability, dependability and confirmability (Lincoln & Guba, 1986). The intention of these criteria is to answer four questions concerned with “truth value, applicability, consistency, and neutrality” (Lincoln & Guba, 1986, p. 76). For each of these assessment criteria, the researcher can take different actions to secure validity and reliability in qualitative research; see Table 6.

**Table 6 – Examples of measures to ensure trustworthiness in qualitative studies, adopted from Lincoln and Guba (1986) and Bell and Bryman (2011)**

Assessment criteria	Practice
Credibility	Research carried out according to good practice Lengthy engagement with the phenomenon or respondents Triangulation by use of different sources, methods and investigators Peer-debriefing to assist in developing propositions Result presented for confirmation (respondent validation)
Transferability	Produce “rich” amount of details from the study (that is, context) in order to enable readers to judge whether all or parts of the findings may be applied elsewhere
Dependability	Maintain complete records, such as selection of participants, fieldwork notes, interview transcripts, decisions during data analysis from all phases in the research process Auditing by peers to evaluate if proper procedures have been used and followed
Confirmability	Individual values or theoretical predispositions should be avoided during the research

The application of above four criteria for ensuring of research quality, used for the five studies included in this thesis is summarised in Table 7. For Study 1, a separate section is added after Table 7 in order to discuss some more aspects of research quality specific to action research.

**Table 7 – Summary of application of assessment criteria to ensure research quality**

Assessment criteria	Application of assessment criteria
Credibility	In Studies I, II and IV, multiple data sources, such as participatory observations, internal documentation and questionnaires and interviews, were used, which have been used to enable triangulation
	In Studies I, III, IV and V, several investigators were involved in data collection and analysis
	In Study I the data collection spanned a considerable length of time, making it possible not only to monitor the change and implementation of new auditing practices, but also the perceptions of these new practices after implementation
	In Study II, the mapping of process management requirements in the ISO 9001 standard towards key practices in process management was validated by two lead auditors to increase the credibility of the pattern matching tool

Assessment criteria	Application of assessment criteria
	In Study III the data collection spanned a considerable length of time, but also contexts, enabling “multi-site” reflections
	In Study III the parameters’ estimation results from the model testing was validated with a k-fold cross-validation using GeNIe/SMILE software
	In Study IV survey questions were based on existing instruments, focus groups were used when developing research questions, and respondent feedback was performed to check respondents’ interpretations of survey questions
	In Study V both authors were involved in the different screening steps. For the review of the full papers, using a coding framework, both researchers were involved, and the papers was divided so that review on abstract and review on full paper was not done by the same researcher for the same paper.
Transferability	All studies, apart from Study IV, include a description of the study object and the context
	Definitions and terminology used in relation to auditing follow ISO standards to avoid interpretation issues.
	Limitations of studies have been clearly declared in every study where relevant
Dependability	Questionnaire results from Studies I, II, III and IV are stored and available if requested by other researchers
	Complete interviews from Study I and IV were transcribed precisely and stored, and available if requested by other researchers
	Sound recordings from interviews in Study I and II are stored by the first author
	Interviews in Study II are partly transcribed
	In Study V, preceding the complete full-text review, a calibration step to calibrate the interpretations of the coding framework took place followed by a discussion of the coding process and the use of individual codes
Confirmability	In all studies recurrent discussions were held regarding individual values or theoretical predispositions, while one of the researchers have expertise in, and several years of experience from the main focus in this thesis (auditing).
	In Study II, mapping of process management requirements in the ISO 9001 standard towards key practices in process management was validated by two lead auditors
	In Study III, all three authors participated in the development of the model for data analysis

In order to determine the quality of the action research, Herr and Anderson (2005) brought forward five validity criteria, which are linked to the goals of action research: outcome validity (extent to which actions have resolved the problem studied), process validity (extent to which problems are solved in a way that secures continuous learning), democratic validity (extent to which the research included all parties involved in the problem studied), catalytic validity (extent to which the research has energised and focused participants to transform), and dialogic validity (extent to which the research has been exposed to and reviewed by the participants). In Study I, the research team reflected on these five criteria and had a continuous and transparent dialogue with the participants. Outcome and process validity were mainly secured by the key informant interviews. Democratic validity was established during the change process through a so-called audit forum, which was used as a focal point for launching ideas and discussing results concerning auditing. The catalytic validity was secured by monitoring whether changes of audit



practices were still in place and used in the audit process. Finally, to critique, the dialogic validity could have been improved by performing a higher number of interviews.

Furthermore, in an action research project, the different phases include several activities in which I as the researcher was involved. This implies that it is important for me as a researcher to understand *when* and *how* this involvement can affect the research process. Bell and Bryman (2011) posited that there are three areas an action researcher must manage and reflect on:

- Researcher pre-understanding
- Role duality
- Organisational politics

All three of these aspects had to be considered in Study I. First, pre-understanding refers to the knowledge, insights and experience of the action researcher gained from the experience of the own organisation, meaning both from the system and the job. This gives the action researcher some advantages and some disadvantages (Coghlan & Brannick, 2008). In Study I, I had an in-depth pre-understanding of the subject of auditing based on several years of experience in planning, executing and follow-up of both internal and external audits, and had been instrumental in forming the current way of performing the internal audits in the organisation. This pre-understanding helped me identify relevant parts of the organisation, processes and roles suitable for participating in any of the planned studies. On the other hand, there was a risk when interviewing that I could influence the interviewee or assume things and miss opportunities for reframing.

Second, the role as insider has several advantages, such as familiarity with the company's culture, language and history. However, adding the researcher role to the normal organisational membership can be difficult and confusing, while the employee is expected to be fully involved and active and the researcher role requires a more detached, objective and neutral position (Coghlan & Brannick, 2008). Third, politics can affect research projects in several ways, such as gaining access, using data, and reporting results. It can cause harm due to the exposure of negative findings, but also create positive feelings. Furthermore, action research is a subversive activity where the objective is to identify and diagnose, followed by action of a change that could impact various people who have different roles in the organisation or process (Coghlan & Brannick, 2008). In Study I, I had audited the organisation in some cases and therefore already had a relationship with the organisation. This meant that I was involved in organisational discussions and politics, for example when stating non-compliances and how to handle audit results, which could possibly affect how respondents act and what answers are given. To manage the above-mentioned challenges, various actions were taken to mitigate possible negative outcomes; see Table 8.

**Table 8 – Mitigation of action research issues related to Study I**

Role in research	Role at work	My role in the change project	Mitigating of research implications
Insider Interviewer	Responsible for the internal audit process and audit concept Lead auditor	Improvement facilitator	Triangulation and use of a co-interviewer Group reflections Interviewee to read transcriptions. Participating functions invited to participate in design of changes and evaluation of results.



### 3.10.2 Ethical considerations

Diener and Crandall (1978) proposed that research ethics in business research consists of four main parts for researchers to avoid and safeguard: harm to participants, informed consent, invasion of privacy, and risk of dishonesty. Ethical concerns have been taken into consideration for all papers and a summary of mitigations of ethical considerations connected to the research design (Table 5), underlying each study, is presented in Table 9.

**Table 9 – Summary of mitigations of ethical considerations in Studies I, II, III, IV and V**

<b>Ethical concern</b>	<b>Mitigations</b>
Harm to participants	Use of approved storage solutions for electronic information such as organisational documents, questionnaire data, recordings, and result presentations
Informed consent	Individual consent from informants collected via interview bookings before the actual interview
Invasion of privacy	Informants were informed about the purpose of the research, anonymity and handling of recordings before starting interviews Informant anonymity was ensured when writing up empirical findings Case-specific matters reviewed to ensure confidentiality
Risk of dishonesty	More than one author validated data analysis to maintain honesty and avoid deception

Specifically, to mitigate ethical concerns in action research projects, Williamson and Prosser (2002) stated three questions that the action researcher and participants should jointly discuss and agree upon:

1. How can confidentiality and anonymity be secured?
2. Action research is a journey and an evolving activity, and no one knows at the start where they will end, so how can informed consent be meaningful?
3. Action research can enter political arenas, so how can harm to participants be avoided?

In Study I, where the action research approach was utilised, all informants participating in phase three (informant interviews) were informed about handling of interview data and confidentiality. Furthermore, in the introduction of the interviews, the fact that the first author was internal to the organisation and had been deeply involved in the change of audit practices was highlighted and discussed. This discussion also clarified to what the informant was consenting. Regarding what the informant consented to, it was explained that because the action research project does not have a predefined set of actions, nor a set finishing date, precise consent could not be given. Instead, it was explained that measures like protecting confidentiality, disclosing potential risks and benefits, enable withdrawing from the project and a sharing of findings were being taken. The role of the second author, being external to the company, was also explained. It was discussed how utilisation of that role can mitigate political discussions, such as discussions between auditors' perceptions of changes of audit practices versus auditees' perception of changes of audit practices.

### 3.10.3 Method discussion

As argued in the introduction of this thesis, research describing how auditing of QMS can be improved and support value creation beyond assuring compliance to standard requirements is scarce. When developing an understanding of a research area about which little is known, the research should be more open-ended, and the main point should be on qualitative or hybrid data; that is, both qualitative and quantitative data (Edmondson & Mcmanus, 2007).

Looking at this thesis from an overall perspective, the research design contains a mixture of qualitative data (from interviews, organisational documents, literature), and quantitative data (from surveys). More specifically, in Studies I and IV, where there was a focus on both new and established constructs, and both quantitative and qualitative data were used, and in Study II, where I would argue that very little was known before and found in extant research, only qualitative data were used. Study III only used quantitative data, which could be considered odd given the argumentation above. However, Study III concerned auditee satisfaction in the audit fieldwork, which has been studied for other types of audits, such as financial auditing. Thus, an existing construct was studied that lends itself to a quantitative research design.

The single-case study design is common in the field of QM and auditing and have been used in three studies in this thesis (Studies I, II and III). One of the drawbacks pointed out for the case study design is that concentration on one case may lead to problems of generalisation (Flick, 2014). To manage this, Yin (2014) posited that generalisation should be divided into statistical generalisation and analytical generalisation. Yin (2014) argued that it is not possible to draw statistical generalisations from a case study. Instead, the term analytical generalisation should be used, meaning that a case study should be looked upon as something that spreads light on principles or theoretical concepts, and generates both findings and lessons learnt (Yin, 2014). This is valid for all three studies (I, II and III) and in order to improve the possibility of generalising the findings, replications of the studies could have been performed, which all three papers note as future research avenues.

Besides above comments regarding different data collection methods in the different studies I would like to add a few more reflections. Semi-structured interviews have been used in three studies in this thesis (Studies I, II and IV). The use of semi-structured interviews opened up for key informants to present specific situations from which a discussion could evolve, and further questions could be developed. This method also suited the explorative purpose of the thesis as well as the design in Study I and IV, in which this type of interviews complemented the quantitative data from the self-administrated questionnaire by adding a possibility to gather broader descriptions of perceptions of work with quality management. Furthermore, in Study I, III and IV the survey instrument has been used. Besides enabling collection of larger data sets, it also enabled a possibility to reach out to respondents that otherwise would not have been possible to involve, such as managers with fully booked calendars, who would have down prioritised an invitation for an interview. In Study III this larger set of data also enabled the possibility to build and test a model for analysing the data, and in which it was later possible to study different what-if scenarios. Moreover, in Study I and II organisational documents have been available and used. Access to organisational documents offered a possibility to gather data, that possibly was less affected by respondents' assumptions about the purpose and intentions of the study.

Paper I, entailing an action research approach, was written early in my PhD studies. Parts of the phases in the action research cycle (Coghlan & Brannick, 2008), such as diagnosing, action planning, and taking action, were performed before I started my PhD studies. At the time that these three phases in the action research cycle were performed, my knowledge about research in general and action research in specific was immature. While action research comprises several activities during the action research cycle where the researcher is involved in different activities to varying degrees, it is important that the researcher has an understanding of how this pre-understanding may affect the research process. In hindsight, I believe that the design of activities in the early phases, such as implementing and following up changes, would have benefited from me being more knowledgeable about the action research approach and possible situations where my dual role could affect what was going to become research findings.

However, the eventual effects from this were discussed with my co-author, who was more experienced than me in action research, and to strengthen credibility both authors jointly carried out the key informant interviews and performed the data analysis.

Regarding a researcher's pre-understanding, knowledge, insights and experience that has been elaborated on above in relation to action research and Study 1, this could be argued to not only be valid for Study I but also for other studies in this thesis. Being an industrial PhD student and a practitioner with more than 15 years of experience from quality management, management systems, and especially auditing of management systems, I could be accused of having introduced individual values or theoretical predispositions at several occasions in the research process and throughout all of the studies. Therefore, several measures have been taken to ensure research quality, as summarised in Table 7 and Table 8. For example, to secure credibility, measures such as multiple data sources and multiple investigators were used. Furthermore, there has been a continuous dialogue within the different research teams per study, but also when meeting key informants during interviews. One could offer the critique that Study II, which resulted in a single-authored paper, did not include enough measures to secure credibility. Certain actions could have been taken to mitigate this, such as increasing the size of the key informant group and included respondent validation of the different results, apart from the validation of the pattern matching tool that took place. At the same time, being employed in a company, having experience and pre-understanding, and a network of other practitioners, has also helped on several occasions during the research process, such as by enabling availability to empirical data and informants, organisational knowledge, preunderstanding of specific problems, but also having a network of other practitioners in the same field. It has also helped interpret the audit process and ISO-related terms necessary for studying how auditing of QMS can be improved.

Whether the value of what my experience brings in supersedes the risks it includes can be debated. Nonetheless, in this thesis it has been an inheritance that I carry with me and something that I and my research fellows have had to adapt to and reflect over. Moreover, and viewing it from the positive side, there is a difference between a practitioner and a researcher when it comes to pre-understanding and that is that practitioners often bring institutional knowledge – that is, knowledge of conditions in a specific company – while researchers' pre-understandings are of other types, such as theories, models and techniques (Gummesson, 2000). Both types of pre-understandings, but also access and understanding, are considered key factors in successful business research (Gummesson, 2000). I argue that I have built upon, and gained from this, in the papers included in this thesis.



## **4 Summary of included papers**

This doctoral thesis includes five papers and each of these papers and their contribution is summarised below. I have chosen to present the five included papers in chronological order, following the research process (Figure 6).

### ***4.1 Paper I – Making internal audits business-relevant***

Internal management system audits are sometimes seen as policing activities that focus on compliance and documentation rather than something that contributes to improvements. Previous research has looked into this but has focused more on what to change in order to make auditing more business-relevant rather than on how these changes can be operationalised. Thus, the purpose of Paper I was to understand how internal audits can be carried out in a way that is perceived to add value beyond verifying compliance towards a standard.

The findings of Paper I confirm that several of the suggested proposals for what to change in the audit process contributed to more value-adding audits when being operationalised. Thus, internal audits can add value beyond verifying compliance, acting as a generative mechanism for business-relevant improvements. However, both short- and long-term changes in audit practices are required. Short-term, hands-on changes are needed, such as explicit requirements regarding the time from audit to report and improved and customised reporting formats. In the long term, it is critical to involve managers in various ways throughout the audit process to create management engagement and to ensure that auditors have relevant understanding and knowledge of the organisation's challenges in the area being audited.

Paper I contributes to earlier research by providing empirical examples of how changes in the audit process can be turned into practice and what the results on the perceived benefits are. This paper also shows that internal audits can add value beyond verifying compliance by implementing both short- and long-term changes in audit practices and by creating management engagement.

### ***4.2 Paper II – Auditing of explorative processes***

Process management is a central part of management systems standards such as ISO 9001. In ISO 9001, process management is represented by different requirements on process design, process control, and process improvement. Research has been conducted on process management in relation to the concepts of exploitation and exploration; exploitation being characterised by refinement, efficiency, and selection, and exploration being characterised by search, risk-taking and variation. Research has also been performed on the sometimes-negative effects from process management practices on exploration in organisations operating in competitive environments. While one of the objectives of audits is to evaluate compliance to the requirements in the ISO 9001 standard, such as process management requirements, the focus of Paper II was to understand how auditors manage different types of processes; that is, exploitative and explorative processes. Thus, the purpose of Paper II was to study whether internal auditors adapt to explorative processes when auditing ISO 9001 process management requirements.

Having analysed the empirical data, findings indicated that internal auditors apply ISO 9001 standard requirements for process control with a one-size-fits-all approach across the studied organisations and processes, even though the audited organisations and processes were

characterised as explorative, and the environment as competitive. This lack of adaptation to the context may originate from a lack of understanding of exploitation and exploration, and the differences between the two; for example, in terms of effects of process management. Furthermore, Paper II indicated that it might be challenging for internal auditors to move between exploitative and explorative processes in an ambidextrous organisation when looking for conformance to process management requirements in the ISO 9001 standard. If requirements for process management are not adapted to an explorative process in a competitive environment, this can stunt an organisation's capability to be innovative, and thus negatively affect its competitiveness.

Previous research has focused on process management practices and understanding exploitation and exploration, but also the effects of process management practices on exploitation and exploration. This paper contributes by adding to this research in three ways. First, research on the effects of process management practices on exploration is now linked with auditing of process management requirements in the ISO 9001 standard. Second, this paper introduces a focus on the auditor as a key person in operationalising process management requirements during the audit. Third, this paper focuses on adaptation of process management practices to better support explorative process in competitive environments, rather than focusing the effects of process management on exploitation and exploration.

#### ***4.3 Paper III – Enhancing satisfaction in the external audit fieldwork***

A prerequisite for becoming and remaining certified according to the ISO 9001 standard is to undergo an initial certification audit and later periodical surveillance audits by an external certification body. However, there are non-negligible costs associated with certification and periodical external audits, and managers have started to ask for a return on investment from management systems, quality programmes and other quality-related initiatives. In this paper, the external audit is viewed as a service where the value created in a service delivery arise in the interaction between an auditor and the auditees, interacting during the fieldwork in the external audit. Thus, the purpose of Paper III was to explore factors that contribute to auditee satisfaction in external audit fieldwork.

From the empirical findings, positive impacts from an auditor's knowledge of operations are demonstrated in several variables. For first-time auditees, an auditor's knowledge of operations was demonstrated to have a significant impact on the auditees feeling and whether they feel comfortable answering, but also on their view regarding whether the audit was performed in the spirit of cooperation. Furthermore, an auditor's knowledge of operations also has a positive impact on the auditees' feelings after the opening meeting and their comfort in answering questions. This falls in line with earlier research arguing that knowledge of operations supports an understanding of auditees' needs and expectations, which is necessary for the provider (auditor) to engage in co-creation of value. Moreover, the empirical findings confirm that the conduct of the fieldwork influences the satisfaction of the auditee and highlights the criticality of the auditor–auditee interaction, showing that the influence on auditee satisfaction is higher when the interaction is more intense. Finally, the empirical findings also show that auditees' comfort in answering questions is related to their perception of the auditor's focus on improvements and their level of knowledge of operations. At the same time, findings do not indicate a criticality in the “focus on ISO compliance” variable. Thus, a focus on ISO compliance appears to be more of a hygiene factor.



This study contributes to earlier research on auditee satisfaction in five ways. First, prior research on auditee satisfaction is extended into the sector of third-party auditing (external audits) of management systems. Second, by expanding the understanding of the fieldwork activity of the audit process, this study contributes to earlier research by demonstrating that audit fieldwork is one of the key activities that contributes to auditee satisfaction. Third, it is confirmed that auditor's knowledge of the business is a key influencing factor on auditee satisfaction. Fourth, the concept of service quality and co-creation of value is added to the audit process, which provides an understanding of the criticality of the auditor-auditee interaction. Finally, the use of Bayesian networks offers a systematic method for analysing interdependence of factors but is also an effective way to manage reasoning under uncertainty.

#### ***4.4 Paper IV – Increasing the value of quality management systems***

Paper IV focuses on QMS that are certified to ISO 9001. Earlier research has shown that a significant amount of time and focus is given to QMS in certified organisations. Thus, it is important that QMS adds value to the organisation. Interest in QMS has also grown through its potential to support the implementation of sustainable development efforts through integrated management systems. However, this potential has not yet been fully exploited and earlier research has suggested that one reason for this is increased formalisation and bureaucracy, induced by a certified QMS. On the other hand, it has also been suggested that QMS provides a well-established infrastructure with potential to create value and support continuous improvements. A critical factor in achieving as much value as possible is having management support and appreciation of quality management work overall. Thus, the purpose of this paper was to investigate how different types of uses of QMS correlate with management perceptions of quality management in terms of respect, cost, and strategic importance.

Rather than studying QMS usage on an overall level, Paper IV investigates the usage of QMS in more detail by drawing on three ways of operationalizing QM: QMS as support for developing the quality of an offering, QMS as a tool for daily management, and QMS as a tool for standardisation and documentation. Based upon these ways, three propositions regarding management's view of the QMS were formulated. First, a QMS supporting development of an offering is likely to be viewed with respect and as strategic important rather than cost-driving. Second, a QMS supporting daily management is likely to be viewed with respect and as strategically important rather than cost-driving. Third, a QMS used for documentation and standardisation is likely to be viewed as cost-driving, and less likely to be viewed with respect and as strategically important.

Paper IV contributes to extant research by showing that the way in which organisations use QMS influences management's respect for, and view of quality management. Applying a business management- and improvement-oriented use of QMS – that is, support for developing offerings and daily management – correlates with management viewing quality management with respect and as strategic, and not as cost-driving. Furthermore, it was also shown that standardisation does not result in similar negative perceptions as a focus on documentation. Both findings nuance the understanding of why QMS might be perceived as non-value-adding, but also with an understanding of how the QMS usage may impact management's perception of the strategic value of QM. The paper also helps extend the research evaluating the impact of QMS on financial performance, by also studying its possible impact on management's perception of quality management.

#### **4.5 *Paper V – Unleashing the potential of internal audits: a review and research agenda***

QM has attracted interest from researchers but also has strong connections to industry, and is therefore a field of research in which researchers and practitioners interplay. QM has been questioned by both researchers and practitioners for reducing innovation and having too much of a focus on standardisation, which is sometimes connected to QMS; that is, certified towards the ISO 9001 management system standard. However, QMS also has positive impacts, such as quality improvements and increased operational performance. While more than 1.2 million organisations worldwide are certified according to the ISO 9001 standard, a key remaining issue is how to enhance activities related to an organisations quality management system.

A central activity in maintaining a QMS is auditing. Both internal and external audits become mandatory when an organisation hold an ISO 9001 certificate. However, auditing has also been criticised for focusing too much on compliance towards the audited standard, being a waste of time, and for not adding value to the organisation. In the quest to improve auditing of QMS, earlier research has proposed reasons for why auditing should be improved, but also suggestions about what to improve in auditing; for example, auditor's organisation-specific knowledge and adaptability, communication skills, and a need to become better at assisting the executive management. Although there are a variety of suggestions for what to improve in terms of auditing of QMS, research on *internal* audits in specific is scarce. Furthermore, there is a lack of an overview research that could help researchers advance current knowledge and guide practitioners in improving the auditing practice, hence contributing to improvements of a practice that is central to a QMS. Thus, the purpose of this paper is to review empirical research on internal audits of ISO 9001 to synthesise advice for value-adding internal audits, as well as to establish a research agenda.

In summary, Paper V contributes to earlier research and practitioners by presenting a review and synthesis of empirical papers concerning internal auditing of QMS. Building on this, Paper V also bring forward four areas that future research could focus on: (I) research with a dual aim, contributing to both practice and theory; (II) research focusing of organisational needs and opportunities for improvements; (III) research on how auditors' competence, as well as planning, can be improved; and (IV) how to implement changes in auditing practices and clarify the different responsibilities in auditing. Furthermore, Paper V proved to be useful for this thesis from two perspectives. First, it added literature bringing forward prerequisites for value-adding internal audits to the literature used in earlier studies in this thesis. Second, results from this literature review reconfirmed earlier research regarding issues such as why internal audits are perceived not to add value and what practices can be implemented to improve internal auditing.

#### **4.6 *Synthesis of contributions***

The five papers contribute individually to earlier research and practice in different ways, but also to answering the three research questions stated in this thesis. Thus, they contribute to the overall purpose of this thesis, which is to describe how auditing of QMS can be improved to support value creation beyond assuring compliance to standard requirements. In this section I take a step back, put all the papers on the table, and synthesise their contributions. The objective of this synthesis is to look for contributions from the included papers in supporting an augmentation of the audit service; that is, improving accessibility, interaction, and participation.

First, accessibility of the service has been pointed out as a key area in an augmentation of a service. To enable this augmentation, the providers' skills and competence, timetables, equipment and documents are argued to be key differencing factors. Findings in Papers I, II, III and V contribute with suggestions for what skills and competencies are argued to be necessary for value-adding audits. Viewing these findings and drawing on the three dimensions for studying change – context (why), content (what) and process (how) (Pettigrew, 1987) – it can be argued that these findings mainly contribute by further addressing the context and content dimensions. However, Paper I contributes with empirical examples of how accessibility of the service can be improved but also with results on the perceived benefits from changed audit practices. Thus, findings from Papers I, II, III and V relate to improved accessibility of the audit service.

Second, interaction between the provider/auditor and the customer/auditee – that is, via communication with employees, resources and systems – has been highlighted as an important area in an augmentation of a service. Empirical findings in Paper I and III contribute with addressing interaction from different views; these include human communication and communication via methods such as audit reports, but also roles assuring communication, such as the sponsor of the audit. Furthermore, Papers III and IV in particular contribute with findings regarding how practices related to auditor's behaviour and attitudes affecting auditee satisfaction and managements' view on QMS. Finally, the findings in Paper III show that auditors' knowledge of operation and a focus on improvements impact auditor-auditee interaction, thus also impacting service quality and a potential co-creation of value. Thus, findings from Paper I, III and IV relate to improved interaction of the audit service.

Third, customer participation enables the customer/auditee to impact the service but is also a prerequisite for becoming a co-producer of the service, and hence a co-creator of value. The empirical findings in Paper I contribute with examples of how auditee participation in the audit can be improved; that is, how the auditee can impact the audit and become a co-creator of value, but also with results on the perceived benefits from changed audit practices related to auditee participation. Furthermore, the findings in Paper III contribute by showing that establishing a joint domain where co-creation of value can take place is an important enabler for auditee satisfaction, and that the establishment of this joint domain is dependent on auditor's knowledge of operation and the communication between the auditor and the auditee. Thus, findings from Paper I and III relate to improved customer participation in the audit service.



## 5 Discussion

The purpose of this thesis is to describe how auditing of QMS can be improved to support value creation beyond assuring compliance to standard requirements. In the first three sections of this chapter I discuss the results in the five included papers in the light of the synthesis in Table 4, thereby answering the three research questions. In this discussion, the core service (see Table 4) is defined as performing the audit and delivering the audit conclusions, and the enabling service, which is mandatory to perform, consists of, for example, an audit plan, but also activities such as opening and closing meetings. These two elements in the basic audit service represents the technical quality of the service (Figure 5). Furthermore, in the discussion, the provider of the service is represented by the auditor/audit team, and the customer of the service is represented by the auditee.

### 5.1 RQ1 – *How can accessibility of the audit be improved?*

Improving customers' accessibility of the service is an important element when augmenting a service offering and is argued to be reliant on factors such as the service provider's competence, skills, timetables, equipment and documents (Grönroos, 1987). In the context of auditing QMS, this thesis shows different ways in which these factors can be addressed, but also points at challenges that could hinder improved accessibility.

First, besides basic auditing skills, skills like organisational and operational knowledge are considered important factors for adding value in the audit process (Paper V). For example, adding functional experts to the audit team, in order to be more relevant in specific areas and better judge adherence to certain audit criteria, has proven to add value to the audit (Paper I). By spending more time in the preparation phase of the audit (Figure 2, Step 2), internal auditors become more knowledgeable about the organisation and/or the process they are auditing (Paper I). Furthermore, it has also been shown that auditees' feelings after the opening meeting, their comfort in replying on questions, and their opinions about whether the audit was performed in a spirit of cooperation, are positively impacted by auditor's knowledge of operations (Paper III). Moreover, it has been shown that auditor's knowledge of the operation, and the terminology and language used by the auditors had a positive impact on the audit client's satisfaction (Paper III).

This aligns to previous research, noting that adding functional experts to audit teams is a way of ensuring that the audit team have organisation-specific knowledge, which is argued to support value adding audits (Pivka, 2004; Power & Terziovski, 2005). It also aligns with earlier research positing that auditors' knowledge of the auditee and their operations supports their ability to understand and evaluate an organisation (Öhman et al., 2012), and supports an understanding of the context, which has been argued to be important for delivering business-relevant auditing (Power & Terziovski, 2007). Knowledge of the auditee and their operation also supports an understanding of auditees' needs and expectations, which the auditor (provider) must possess in order to be invited to co-create value with the auditee (customer) in the joint domain (Figure 4) (Grönroos, 2011). Furthermore, industry and business knowledge have shown to be key quality attributes affecting auditee satisfaction (Behn et al., 1997; Kilgore et al., 2014; Öhman et al., 2012; Oussii & Boulila Taktak, 2018; Samelson et al., 2006). Moreover, Paper III found that ISO compliance does not appear critical for auditee satisfaction, which means that ISO compliance can be argued to be a primary responsibility for the auditor, and therefore a resource that the auditor contributes with in the process (Grönroos, 2011). Thus, ISO knowledge seems to be more of a qualifier rather than a factor adding to auditee satisfaction,

when compared to knowledge of the operation and using a language and terminology that is easy to understand, and could therefore be argued to be part of the basic service; see Table 4.

Second, earlier research has argued that a change in focus of internal audits, from a focus on auditing specific organisational units to a focus on processes, is effective and value-adding (Paper V). Paper II studied the application of requirements in ISO 9001 related to process-management and showed that internal auditors partly adapted to the type of process and organisation in focus. In their preparation of audit questions before auditing a process that was argued to be explorative (for example, a development process), several questions were prepared regarding risks, predictability, process efficiency, and measurements of effectiveness, which represents typical exploitative attributes (March, 1991; O'Reilly & Tushman, 2004). Similar behaviour was also observed when reviewing audit reports (Paper II). Even though some reports showed evidence of auditors searching for conformance with standard requirements driving the practice of process design, which is believed to have a positive effect on organisations operating in an environment of fierce competition (Linderman & Sanders Jones, 2014), it was also found that auditors looked for compliance to attributes that are geared towards process control; in other words, the focus in audit conclusions was on exploitative non-conformities. This is not in line with earlier research showing that having context-related skills is an important factor in adding more value in the audit process (Power & Terziovski, 2005; Ramly et al., 2007). Focusing on exploitative attributes may have a negative effect on an organisation's explorative capabilities such as innovation (Benner & Tushman, 2003), which is deemed to be important in competitive environments (Linderman & Sanders Jones, 2014), but also on its ability to adapt to its environment (Benner & Tushman, 2002; Terziovski & Guerrero, 2014). Instead, the focus should have been on company vision, mission and strategies, which is believed to better support an organisation consisting of both exploitative and explorative organisations (Birkinshaw et al., 2016). This indicates a possible challenge for auditors in moving between exploitative and explorative processes and organisations in an ambidextrous organisation, which could negatively affect the requested change of focus in auditing of QMS, but also have a negative effect on the accessibility of the audit service.

Third, practices such as delivering the audit report quickly after the audit and producing auditee-oriented audit reports have been shown to add more value in the audit process (Paper I). Delivering an audit report quickly helps maintain the momentum in the audit process while the auditees still remember the interview and their impressions remain. Furthermore, an auditee-oriented audit report is easier to utilise; for example, a report in PowerPoint format can be shown on the screen directly and, to a higher degree, it ensures that the addressed receiver reads the report (Paper I). This aligns to previous research, arguing that customising audit reports is a way of supporting value-added audits (Mahzan & Hassan, 2015; Piskar, 2006).

#### 5.1.1 *Summary RQ1*

By reviewing the framework for an augmented audit service model and focusing on auditees accessibility of the audit service (see Table 4), this thesis has contributed with suggestions for more value-adding audits, such as adding functional experts to the audit team, spending more time in the preparation phase of the audit, and shortening the time from audit to audit report delivery and auditee-oriented reports. The thesis has also shed light on the criticality of auditor competence, his/her context adaptability, and the importance of using easy to access language and terms. By implementing these suggestions, and being aware of the criticalities and challenges identified and discussed, it is argued that auditees' accessibility of the audit service will be improved.



## **5.2 RQ2 – How can the interaction between the auditor and the auditee be improved?**

Improving interaction between the service provider and the customer of the service is an important element when augmenting a service offering and is reliant on elements such as the service provider's behaviour, attitudes and communication (Grönroos, 1987). In the context of auditing QMS, this thesis shows different ways in which auditees' interaction with the auditor/audit team can be improved.

First, the findings in this thesis show that the auditee's feelings after the opening meeting are important for the overall audit client satisfaction, and that these feelings are sensitive to practical elements like the auditor clarifying the purpose of the audit activity, audit arrangements, and the next steps in the audit (Paper III). This is in line with earlier research positing that establishing good relationships support value-adding audits (Power & Terziovski, 2007), and that auditor's clarity, ability to listen and give feedback can affect the quality of the interaction (Waseem et al., 2018). Hence, communicating the purpose of the audit, and the planned audit arrangements during and after the audit can arguably support the auditor–auditee interaction positively.

Second, context-related factors such as auditees' previous experience of audits have been shown to contribute to audit client satisfaction, but so too have communication-related factors such as auditors' use of terminology and language and their focus on improvements (Paper III). Drawing on value-creation (Grönroos, 2011), having the ability as an auditor to use language and terminology that is easy to understand and focus on improvements arguably supports interaction between the auditor and the auditee.

Third, auditor's competence and booking follow-up meetings was found to be perceived positively (Paper I), but also acting in a consultative manner was perceived as value-adding (Paper I) and aligns with earlier research arguing that making recommendations (Mahzan & Hassan, 2015) and acting consultative (Roth, 2003) are prerequisites for value-adding audits. Drawing on the augmented service offering model (Grönroos, 1987), the practice of an auditor acting in a consultative manner is argued to support auditees interaction with the auditor/audit team. However, improving interaction of the audit service arguably build upon another element in an augmentation of the audit service; that is, accessibility of the audit service, which is dependent on factors such as the competence of the auditor. This aligns with the view that augmentation of a service cannot only be addressed through one or two components in the augmented service offering; instead, all components must be acknowledged (Grönroos, 1987).

Fourth, the findings in Paper IV show that the usage of the QMS will affect whether management views QM-related work with respect, as strategically important, or as a cost. For example, management are likely to view QM with more respect if the usage of an organisation's QMS is business management-oriented or improvement-oriented than if the usage of the QMS is document-focused (Paper IV). On this basis, it can be argued that management's view on QM will probably influence its willingness to invest resources in QM, and that the auditor's view and use of an organisation's QMS will likely affect management's willingness to invest in and participate in QM-related activities, such as auditing. This stresses the importance of auditors interacting with management, both in order to understand their view on QM, but also to collect their input to the audit programme and the individual audit, which was shown to be perceived positively in Paper I. Auditors acting in line with the above behaviour and attitudes can support auditees' interaction with the auditor and is in line with earlier claims that

management commitment is a critical success factor for having value-adding audits, both through receiving management directions (Alič & Rusjan, 2011; Poksinska et al., 2002; Roth, 2003), but also from management involvement in the audit process (Alič & Rusjan, 2011; Dale & Askey, 1994; Pivka, 2004; Poksinska et al., 2002). This interaction with management (and the organisation) also supports a business-management-oriented and improvement-oriented view of QM (Maguad, 2006).

### 5.2.1 *Summary RQ2*

Reviewing the framework for an augmented audit service model and focusing on auditees' interaction with the auditor (see Table 4), this thesis has contributed with hands-on suggestions for more value-adding audits by pointing at the criticality of clarifying; the purpose of the audit activity, audit arrangements, and the next steps. This thesis has also shown the importance of auditor's terminology and language, and communication with management. By implementing these suggestions and reflecting on the key areas of interaction discussed, it is argued that auditees' interaction with the auditor in the audit service can be improved, and as a result also the functional service quality (Grönroos, 1988); see Figure 5.

## 5.3 *RQ3 – How can participation in the audit service be improved?*

Improving customers' participation in the service delivery process is an important element when augmenting a service offering (Grönroos, 1987). By opening the way for customers to participate in the service delivery process, customers can become co-producers of the service, and hence co-creators of value (Grönroos, 2016). In the context of auditing QMS, this thesis shows various ways in which auditees' participation in the audit process can be improved.

First, by spending more time in the preparation phase of the audit (Figure 2, Step 2) and increasing the participation of the auditee, have shown to add value to the audit (Paper I), and by introducing a sponsor role (Paper I), a dialogue with management was established and management became directly involved in discussions, not only about the audit programme, but also about individual audits. As a result, instead of having a stand-alone cyclical audit programme, audit programmes and plans were aligned to the organisation's overall strategic plans, improvement plans, and budgets with the help of the sponsor, which was shown to have positive effects on the audit process (Paper I). This participation enabled management to directly influence the audit focus, and thus created prerequisites for greater return on investment, which is considered important for having value-adding audits (Pivka, 2004) and an enabler for a process (that is, the audit process) to be a contributor to an organisations' competitive advantage (Trkman, 2010). Moreover, this close connection to management contributed positively to discussions about follow-up of audits (Paper I), which also contributed positively to the audit process and is considered important for value-adding audits (Alič & Rusjan, 2011). Finally, a close relation to management also support leadership, being a quality management principle (ISO, 2020), and management commitment, which is one of the core values in QM (Hellsten & Klefsjö, 2000).

Second, this participation from management in the audit through the sponsor role, arguably build on accessibility and interaction in the audit service. Hence, auditors need to have more than just basic auditor competence, such as organisational and context related knowledge, but also pay attention to their behaviour. This is in line with earlier claims that having context-related and organisation-specific knowledge, and the ability to adapt, are prerequisites for value-adding audits (Pivka, 2004; Power & Terziovski, 2005; Ramly et al., 2007). Furthermore, the ability to express positive opinions and proposals for improvement measures (Piskar, 2006),

but also having communication skills, being able to show empathy, being flexible, and showing a positive approach are all seen as influencing the perception of audits (Power & Terziovski, 2007). Such competencies are key for improving the accessibility and interaction (Grönroos, 1987) in the audit. Therefore, it is suggested that auditees' participation in the audit service may not only be reliant on how well the auditee is prepared to participate in the audit service, but also on whether the prerequisites for auditees' accessibility of the audit service and interaction with the auditor are met.

Third, Paper III showed that auditees' level of comfort with answering auditors' questions, and their views on whether the audit was performed in a spirit of cooperation was positively impacted by auditor's knowledge of the operation. Furthermore, Paper III showed that auditor's knowledge of the operation also has a positive impact on auditees' feelings after the opening meeting. Preparing customers' participation in the service delivery process is argued to be an important element when augmenting a service offering (Grönroos, 1987). Thus, having positive feelings after the opening meeting, feeling comfortable answering, and viewing the audit to be performed in a spirit of cooperation arguably affect the willingness to participate in the audit. Therefore, it is suggested that auditor's competence not only affects the accessibility of the audit, but also the level of participation in the audit. Consequently, the possibility to establish a joint domain where co-creation of value can take place depends not only on auditees' participation in the audit process, but also on the establishment of both accessibility of the audit service and an interaction with the auditor.

Finally, a closer relationship between the auditor and the auditee could raise questions about the independence of the auditor. The guideline for auditing management systems, ISO 19011:2018, specifically states that an important principle of auditing is independence:

Auditors should be independent of the activity being audited wherever practicable and should in all cases act in a manner that is free from bias and conflict of interest. For internal audits, auditors should be independent from the function being audited if practicable. Auditors should maintain objectivity throughout the audit process to ensure that the audit findings and conclusions are based only on the audit evidence (ISO, 2018, p. 6).

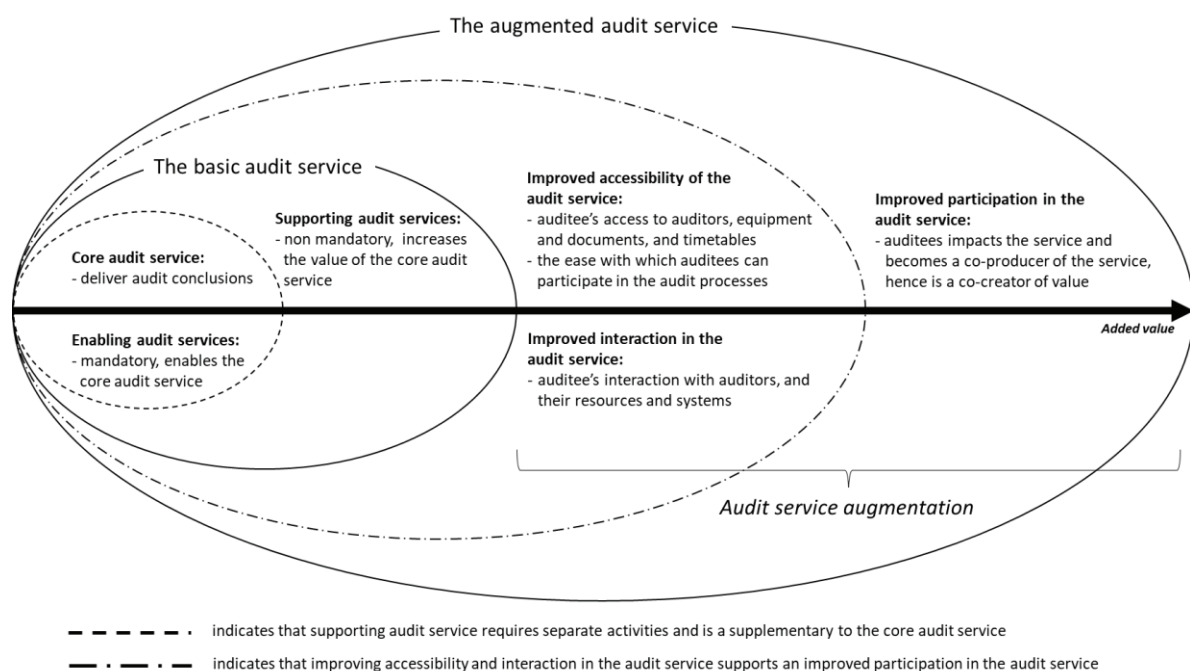
However, earlier research argues that gathering rich information about the auditee and the organisation they will audit (Piskar, 2006), having a close relation with management (Roth, 2003), and receiving management support in audit activities (Alič & Rusjan, 2011; Pivka, 2004) are prerequisites for value-adding audits. This points to a challenge for the auditors when balancing the need to safeguard their independence, avoiding bias and conflict of interest.

### 5.3.1 *Summary RQ3*

Reviewing the framework for an augmented audit service model with a focus on auditees' participation in the audit service (Table 4), this thesis has contributed with an understanding of how auditees' participation in the audit can be developed through e.g. auditors spending more time in the preparation phase of the audit (Figure 2, Step 2) and by engaging management in the audit through the sponsor role. However, increased engagement with management comes with an increasing need for auditor competence, but also with a call for safeguarding auditors' independence during the audit process.

## 5.4 The augmented audit service model

Drawing on the augmented service offering (Grönroos, 1987, 2016) and the key findings in this thesis – that is, the answers to the research questions – a model for an augmented audit service is presented in this section; see Figure 7 and Table 10, which provides an overview of results related to the different elements in the basic audit service and in the proposed augmentation of the basic audit service. The augmented audit service model (Figure 7) consists of two parts. The basic audit service represents the technical quality of the audit service; the “what of the audit service” whereas the audit service augmentation: improved accessibility, interaction and participation, target the functional quality of the audit service; the “how of the audit service delivery”. By adding different elements to the core audit service, such as supporting audit services and improved accessibility, a move from left to right in Figure 7 can take place and the added value of the audit can increase, as represented by the black arrow in Figure 7.



**Figure 7 – The augmented audit service model and its key elements**

The dashed line separating the core audit service and the enabling audit services, from the supporting audit service, indicates that there are mandatory and non-mandatory practices in the basic audit service. It also indicates that there is an opportunity already in the basic audit service to add more value, as discussed further below. The dotted line separating the two elements (improved accessibility of the audit service and improved interaction in the audit service) from the element of improved participation in the audit service indicates that the former two elements support an improvement of the latter element.

The basic audit service is built on three elements (Figure 7). The first is the core audit service, which fulfils the reason for being present as an auditor, which is to deliver audit conclusions (Table 10). The second is the enabling audit service, which is required to deliver the core audit service, such as preparing an audit plan and performing an opening meeting (Table 10). The enabling audit service is mandatory; without it, the core audit service is at risk. Performing the core audit service and the enabling audit services are typical activities that auditors are trained in during the basic auditor training (Table 10).

**Table 10 – Descriptions and prerequisites of elements in the basic and augmented audit service, and supporting findings from the five included papers**

Basic audit service				
Element	Description	Prerequisites	Examples of activities	Reference
Core audit service	Deliver audit conclusions	Basic auditor training	Prepare and distribute an audit report; Step 4 in Figure 2	ISO (2018)
Enabling audit services	Enables the core audit service – mandatory		Prepare an audit plan; Step 2 in Figure 2 Perform opening and closing meetings; Step 3 in Figure 2	ISO (2018) ISO (2018)
Supporting audit services	Increases the value of the core audit service – not mandatory	For example, quality management training, management system training	Measure audit process effectiveness/efficiency Integrate audits of different management systems	Piskar (2006), Elliot et al. (2007) Hutchins (2001), Hassan et al. (2019)
Augmentation of the basic audit service				
Element	Description	Prerequisites	Examples of findings from included papers (PI = Paper I)	Examples of references
Auditees' accessibility of the audit service	Auditee's access to auditors, equipment and documents, and timetables, the ease with which auditees can participate in the audit processes	Reliant on auditor competence, timetables, equipment and documents	Add functional experts to the audit team (PI) Spend more time in the preparation phase (PI) Be knowledgeable about the operation, and adaptable to the operational/QMS context, use easy/correct terminology and language (PII, PIII, PV) Prepare target-group-oriented audit reports and shorten the time to delivery of the audit report (PI)	Pivka (2004), Power & Terziovski (2005) Öhman et al. (2012), Pivka (2004), Power & Terziovski (2005), Ramly et al. (2007) Piskar (2006), Mahzan & Hassan (2015)
Auditees' interaction with the auditor/audit team	Auditee's interaction with auditors, and their resources and systems	Reliant on auditor's communication, behaviour and attitudes	Communicate the purpose of the audit and audit arrangements (PIII) Be knowledgeable about the operation, and adaptable to the operational/QMS context, use easy/correct terminology and language (PIII) Focus on improvements (PIV) Act in a consultative manner (PI)	Power and Terziovski (2007) Öhman et al. (2012), Pivka (2004), Power & Terziovski (2005), Ramly et al. (2007) Esa et al. (2006) Dennis Beecroft (1996), Mahzan & Hassan (2015)
Auditees' participation in the audit service	Auditee impacts the service and becomes a co-producer of the service, hence is a co-creator of value.	Reliant on how well the auditee is prepared to participate in the audit service	Be knowledgeable about the operation, and adaptable to the operational/QMS context (PIII) Enable a close dialogue with management via a sponsor (PI) Align audits to strategic plans, improvement areas and budgets (PI) Involve management in follow-up of audit results (PI)	Öhman et al. (2012), Pivka (2004), Power & Terziovski (2005), Ramly et al. (2007) Roth (2003) Alic and Rusjan (2011), Roth (2003) Alic and Rusjan (2011), Rogala (2015)



As described in the introduction of this thesis, audits are reported to be viewed negatively within many organisations because audits are perceived as an inspection activity focusing on compliance and documentation (Beckmerhagen et al., 2004; Elliott et al., 2007). It has also been argued that auditing has focused too much on fulfilling the audit programme instead of the resulting value (Beckmerhagen et al., 2004; Elliott et al., 2007; Meegan & Simpson, 1997). Having a focus on compliance and fulfilling the audit programme is not without value and ensures that, for example, standard requirements are fulfilled, and a certification can be maintained. However, based on the findings in this thesis, it is argued that the value of the core audit service can be increased beyond assuring compliance to standard requirements by adding supporting services, and by improving accessibility, interaction and participation in the audit service; that is, augmenting the audit service.

When analysing the results from the included papers in the light of the synthesis in Table 4, most of the findings relate to any of the three elements supporting an augmentation of the basic audit service; that is, accessibility, interaction and participation (see Figure 7 and Table 10). However, during the analysis of earlier research, two suggestions for practices that could contribute to improving auditing have been recognised, which goes the basic audit service. First, earlier research suggests that different metrics should be developed to measure and evaluate audit effectiveness and track audit outcomes (Paper I and V). Second, extant research suggests that different types of audits should be integrated, such as audits of QMS and environmental management systems (Paper V). These suggestions for improving auditing could be viewed as supporting services that are not mandatory to perform but do increase the value of the core audit service (Grönroos, 1987). However, integrating audits of different types of management system standards affect how the audit service is delivered, which relates to the functional service quality (Grönroos, 1988). Furthermore, being able to integrate audits of different types of management system standards, and/or evaluating audit effectiveness through a set of measurements, requires auditor competence beyond what is taught in the basic auditor training. Given the two above examples of supporting audit services, it can be argued that the basic auditor training only acts as a starting point for delivering the basic audit service, and when moving towards adding supporting audit services, additional auditor training, such as training in quality management, becomes a prerequisite. The lack of such training and competence could hinder a move towards more value-adding audits, and consequently substantiate a perception of audits focusing too much on compliance (Chiarini, 2019), and even being a waste of time (Ramly et al., 2018).

Drawing on the augmented service offering (Grönroos, 1987, 2016), which address the functional service quality, it is proposed that a more comprehensive audit service should be built, beyond the basic audit service. An augmentation of the audit service consists of three elements (Figure 7 and Table 10). The first is improving the accessibility of the audit service; that is, auditees' ease of access to the audit team and auditors, to audit reports, but also the ease with which the auditee can participate in the audit service. Accessibility depends on the competence of the service provider, their timetables, but also on tools and documents used (Grönroos, 1987). Building on the findings related to RQ1, several practices can be implemented to improve the accessibility of the audit service, such as being knowledgeable about the operation and use easy/correct terminology and language; see Table 10. The second element is improving the interaction in the audit service; that is, auditees' interaction with the audit team and auditors, their resources and systems. Interaction depends on the communication between the auditor and the auditee, which in turn depends on factors such as auditors' attitudes and what they say and do (Grönroos, 1987). Drawing on the findings related to RQ2, several practices can be implemented to improve the interaction in the audit service, such as communicating the purpose of the audit and audit arrangements, focusing on improvements,

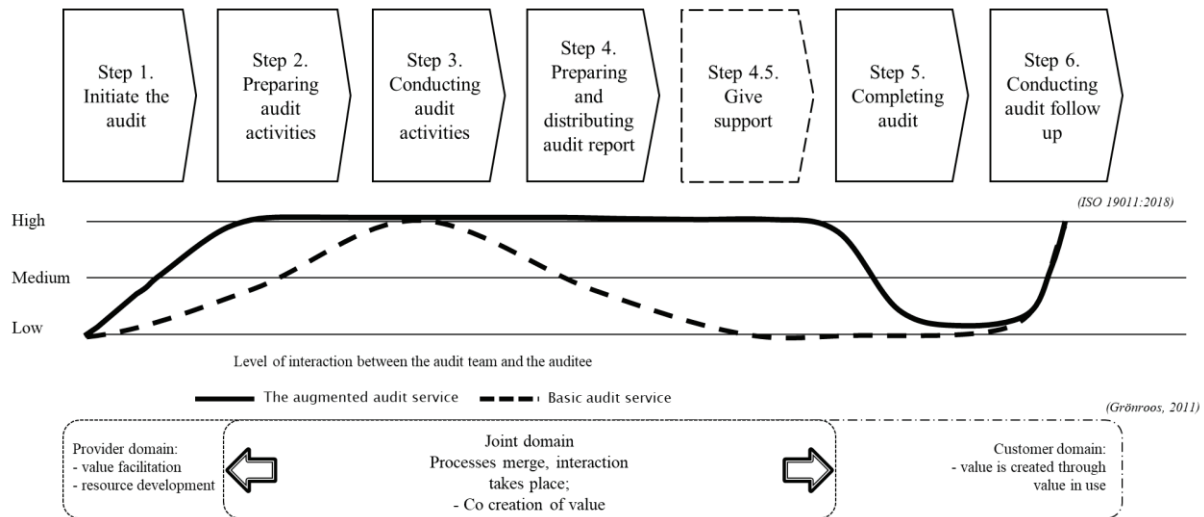


and acting in a consultative manner; see Table 10. The third element is improving auditees' participation in the audit service. Grönroos (2016) stated that participation depends on how well the auditee is prepared to participate in the audit service. Building on the findings related to RQ3, implementing practices such as enabling a close dialogue with management via a sponsor, and spending more time in the audit preparation phase (Figure 2, Step 2, and also see Table 10) can improve participation in the basic audit service; that is, an auditee can become a co-producer of the audit service, and thus a co-creator of value.

It can be seen from Table 10 that being knowledgeable about the operation and adaptable to different contexts as well as the QMS, are key for all three elements in an augmentation of the audit service. Furthermore, the use of easy/correct terminology and language are important both for improving auditees' accessibility of the audit service and their interaction with the auditor. At the same time, close dialogue with management (for example), which supports preparing the auditee for participation in the audit service, could require the use of easy/correct terminology and language in the audit service. Based upon these two descriptions of dependencies, it is suggested that the three elements supporting an augmentation of the audit service are interlinked and should not be addressed individually. These dependencies are also argued to include a sequential factor; that is, one element in an augmentation of the basic audit service should be addressed before another element. In the augmented audit service model this is visualised in such a way that the whole model grows from left to right, beginning in the same location (that is, the core audit service) and enabling audit services must be established before supporting audit services can be added, and the basic audit service must be established before an augmentation of the audit service can take place. Building on this, and the discussion above about dependencies, it is argued that an improvement in auditees' accessibility of the audit service and their interaction with the auditor needs to be established before the element of improving auditees' participation in the audit service can be addressed. In other words, auditors' competence and documents, and their communication, behaviour and attitudes must be established at an appropriate level before the auditee can be prepared to participate in the audit service and become a co-creator of value. This concept is visualised in Figure 7 by the dotted line between the two elements of accessibility of the audit service and interaction in the audit service, and the element of participation in the audit service.

The above dependencies between the augmenting elements are supported by Grönroos (2016), who asserted that developing a service offering is an integrated process. Grönroos (2016) also submitted that the basic service package is perceived in different ways, depending on, for example, the accessibility of the service and how well the interaction is perceived, thus indicating that there is a relation between the different elements in the basic service and the augmenting elements. However, these dependencies, and the sequential factors, are not elaborated on, nor visualised in the augmented service offering model (Grönroos, 1987, 2016).

Referring to Figure 3, the dashed line in Figure 8 (below) represents the typical level of interaction in the basic audit service. By viewing an audit as a service and implementing findings from the five included papers, the accessibility of the audit service and the level of interaction in the audit process can be improved; see the solid line in Figure 8, which broadens the joint domain (see bottom part of Figure 8) and opens up for co creation of value. However, this raises a call for a change in the audit process.



**Figure 8 – Level of interaction in the augmented audit service model compared to the basic audit service**

In order to improve the accessibility of the audit service – for example, become more knowledgeable about the operation, adaptable to the operational/QMS context, and use easy/correct terminology and language (Öhman et al., 2012; Pivka, 2004; Power & Terziovski, 2005; Ramly et al., 2007) – and improve the interaction with the auditee, such as through close dialogue with management (Roth, 2003), an auditor must plan to spend more time preparing the audit (Step 2, Figure 8). Furthermore, to act in a consultative manner (Dennis Beecroft, 1996; Mahzan & Hassan, 2015), which can support improved interaction (Table 10), it is suggested that an extra step should be added in the audit process: Step 4.5 “Give support” in Figure 8. Examples of such support include booking of follow-up meetings where the auditor and the auditee discuss audit conclusions and applicable solutions for improvements (Paper I). Adding this step in the audit process is in line with earlier research about service strategies, arguing that delivering a customer solution (in this context, the audit conclusions) should be viewed as a set of four relational processes – requirement definition, customisation and integration, deployment, and post-deployment – between a provider and a customer (Tuli et al., 2007). The first three of these four relational processes have their counterparts in the audit process (Figure 8); requirement definition – Step 1, customisation and integration – Step 2, deployment – Steps 3 and 4. By adding Step 4.5 (Figure 8) the fourth relational process, post-deployment, is also covered. Furthermore, improving the interaction and adding service support (that is, Step 4.5, Figure 8) are ranked as core drivers in a provider-customer relationship (Ulaga & Eggert, 2006).

The above suggestions for an augmentation of the audit process and changes to the audit process raise calls to revisit the current auditor curriculum. Besides improving the auditor knowledge of the operation, for example by spending more time in Step 2 of the audit process (Figure 8), auditor curriculum could be revisited to secure knowledge and skills, such as having rich management experience (Sun et al., 2017) and being personal and organised (Fletcher & Gupta, 1999), which are necessary when applying the augmenting elements to the audit service.

The definition of an audit (see terms and definitions) is the same for both internal and external audits; that is, the core audit service and the enabling audit services (Table 10) are the same for both audit types. The third element of the basic audit service – the supporting audit service – is not mandatory and can be different. Together, these three elements determine *what* auditees receive and represents the technical service quality (Grönroos, 1988). However, it does not say anything about *how* the audit service is to be delivered (Grönroos, 2016); that is, the functional

service quality (Grönroos, 1988). How the audit service is delivered is formed by the three elements in an augmentation of the service and is argued to be independent of whether the audit is an internal or external audit of a QMS, while the basic audit process (Figure 2) is the same for both types of audits. Hence, the findings from the included papers supporting an augmentation of the basic audit service are proposed to be applicable for both internal and external audits. However, as discussed in relation to RQ3, a closer relationship between the auditor and the auditee through improved interaction and participation could raise questions about the independence of the auditor. This independence is important for both internal and external auditing of QMS, but especially for external auditing granting a certification of the QMS. Therefore, practices should be chosen carefully when improving auditees interaction and their participation in the audit service.

## 5.5 Contributions

This thesis contributes to earlier research in three main ways. First, it confirms that internal audits can add value beyond confirming compliance through operationalisation of earlier suggested changes in auditing (Alič & Rusjan, 2011; Dale & Askey, 1994; Piskar, 2006; Pivka, 2004; Poksinska et al., 2002; Rippin et al., 1994; Roth, 2003). Second, by drawing on the total perceived service quality model (Grönroos, 1988) and the augmented service offering model (Grönroos, 1987, 2016), paying attention to the elements used to augment a service (that is, accessibility, interaction and participation), this thesis provides a model for improving auditing of QMS – the augmented audit service model. Third, drawing on Pettigrew's (1987) three dimensions for studying change – context (why), content (what) and process (how) – this thesis adds to close the initially identified research gap on how auditing can be improved, by allying earlier research on auditing and service management.

From practical and managerial perspectives, this thesis contributes in four ways. First, this thesis brings forward tested short- and long-term suggestion for how auditing of QMS can be improved to support value creation beyond assuring compliance to standard requirements. Second, by drawing on the augmented service offering model (Grönroos, 1987, 2016), above suggestions for improving auditing of QMS have been organised into the augmented audit service model. By implementing this model, with a focus on improving auditees' accessibility, the interaction between the auditor and the auditee, and auditees' participation in the audit, the auditing of QMS can be improved to support value creation beyond assuring compliance to standard requirements. Third, this thesis points towards the need for changes to the audit process and auditor curriculums, while the above-proposed augmentations are reliant on factors such as auditor competence and documents for improving accessibility, auditor's communication and attitudes for improving the interaction, and how well the auditees are prepared to participate in the audit service. Fourth, although this thesis has departed from a standard audit process for auditing of QMS, and suggestions for what to improve in relation to auditing of QMS, examples have been provided that could be utilised for other types of audits, such as financial audits, but also for other improvement activities using a step-by-step methodology, including looking at something, analysing how it can be improved, reporting conclusions, and then supporting an improvement.

## 5.6 Reflections

I started to learn more about service management by taking a Massive Open Online Course in service management as part of my doctoral courses. I was excited and quickly felt that service management was easy to connect to auditing, which may or may not be obvious. I had never heard any internal or external auditor speaking about an audit as a service. As a result of these new learnings, I introduced service quality and co-creation of value in my research at the time of writing up Paper III, and later, when writing up my licentiate thesis, also incorporated the concept of augmented service offering. Introducing service quality, co-creation of value and the concept of the augmented service offering to auditing of QMS has added value, and these concepts have become key parts and a foundation for answering to the purpose of this thesis. However, at the time that I formulated this research project, these concepts were not part of the planned theoretical framework, nor did they influence Papers I and II. In hindsight, I believe that an earlier introduction of these service-related concepts would have benefited the thesis by guiding the overall purpose of the research more towards service management, but also by influencing Paper I and II.

At a glance, it may appear that Paper IV does not address auditing of QMS, and only an organisation's usage of QMS and its impact on management's view of QM. However, companies' organisations are not the only users of the QMS. Auditors, both internal and external, are also frequent users of QMS at the same time as they interact with management. Even though their usage of QMS has a different purpose throughout the audit process (Figure 2) – for example, for gathering information, evaluation of compliance to a standard, and for discussing improvements, their usage of the QMS, attitudes towards the QMS, and how they express their expectations on an organisation's usage of their QMS, could be argued to also impact management's view of QM. Moreover, management's view on QMS and work with QM could also impact their view and perception of both internal and external auditing, viewing it with respect, as strategic important, or as cost-driving.

One may ask why the literature review (Paper V) was the final paper to be written, as it may have been more logic to start with a literature review in order to explore the area of research, the problem to be addressed, and to become acquainted with extant research. On the other hand, it could be reasoned that I'm better equipped to interpret, analyse and draw conclusions from earlier research further into my doctoral studies. However, the research described in this thesis started up as an action research project, which I started as an industrial PhD student at the same time as I was finishing the assignment of designing and implementing several changes in a company-wide internal audit process. Consequently, data from possible key informants involved in audits conducted both before and after implementation of the new audit practices and surveys were instantly available and utilised in Paper I. To ensure that existing research was covered, the theoretical framework in Paper I includes a comprehensive structuring of extant literature regarding both perceptions of internal audits and prerequisites for value-adding internal audits, which provide an important foundation for this thesis.

## ***5.7 Limitations and suggestions for future research***

This thesis is an attempt to synthesise and advance earlier research on how to perform more value adding audits; that is, value beyond assuring compliance to standard requirements. During this attempt some limitations of this thesis appeared and some suggestions for future research emerged.

Papers I and III in this thesis are limited to auditing of QMS in one case organisation each. Hence, generalisation based upon the results is limited. To increase the generalisability, I suggest further studies in other organisations. I also suggest studying other types of audits, such as financial audits, in order to understand whether similar results are achieved. Furthermore, to increase the credibility of these studies, future researchers could perform the same type of interviews and surveys in other parts of these organisations. Furthermore, in Paper II, one case company in a highly competitive environment was studied, which limited the generalisability of the findings. Therefore, it is suggested that future research include multiple case studies in companies in different competitive environments. Moreover, Paper III is based on one company and its interaction with one of its chosen certification bodies for external auditing. To increase the generalisability of the finding's future studies across more companies, other certification bodies and additional standards are suggested.

When viewing the results of this thesis in the context of the augmented service offering, I can conclude that the focus in this thesis has been on the augmenting components: accessibility, interaction and participation. In the introduction to the discussion (Chapter 5), I argued that the core service (Figure 7) is defined as performing the audit and deliver the audit conclusions, and that the enabling service (mandatory to perform the core service) is defined as consisting of an audit plan, for example, but also activities such as opening and closing meetings. This view is based upon my interpretation of the audit process and ISO 19011:2018. Furthermore, my view of the audit process as such, and the lengthy experience from auditing, may have impacted the "classifications" of the empirical findings into whether they contribute to accessibility, interaction or participation in the augmented audit service model. Thus, to challenge the augmented audit service model as such, and to validate the different belongings of suggested audit practices, future studies in organisations where the augmented audit service model have been applied are suggested.

This thesis has studied and discussed a sample of suggested improvements of auditing, viewing auditing as a service, and drawing on the augmented service offering (Grönroos, 1987). Considering the number of certified organisations, and the fact that auditing is a key practice in QM and when maintaining a certification, future studies of how the augmented audit service model can be implemented and how this concept change perceptions of auditing would be of interest, both from theoretical and practical perspectives. Furthermore, questions have been raised concerning the value of auditing of management systems (Beckmerhagen et al., 2004; Dennis Beecroft, 1996; Elliott et al., 2007; Heras-Saizarbitoria et al., 2013; Pun et al., 1999). Therefore, it would be interesting to investigate whether the augmented audit service model changes an organisation's view of the value created by auditing and, as a result of this, possible changes in willingness to allocate resources to QMS activities. Finally, building on the discussion on dependencies between the elements of an augmentation of the audit service, and the presence of a chronological component, I suggest further research about the augmented service offering model (Grönroos, 1987, 2016), its elements and their interaction.





## 6 Conclusions

This thesis offers insights into how auditing can be improved to support value creation beyond assuring compliance to standard requirements by viewing an audit as a service. The thesis draws on QM, but also upon research on service quality and augmentation of services. The findings of this thesis are built upon five studies (four case studies and one literature review) based on data collected from 2012 up until end of 2019. These studies have provided answers to the three research questions related to the purpose of this thesis. The purpose of this thesis, which was to describe *how* auditing of QMS can be improved to support value creation beyond assuring compliance to standard requirements, has been addressed by describing how auditing can be improved by viewing auditing as a service, and by allying earlier research on auditing with service management into the augmented audit service model; see Figure 7 and Table 10. Furthermore, this thesis provides several implications and elements to utilise when enabling an audit service to support value creation beyond assuring compliance to standard requirements.

First, several short- and long-term changes of audit practices for improving auditees accessibility of the audit service have been presented. These practices include adding functional experts to the audit team, making auditors more knowledgeable about the operation audited, but also ensuring that auditors are adaptable to the operational context. Such practices support an understanding of customers' needs and expectations, enhance auditees satisfaction, and support an auditor's ability to understand and evaluate an organisation. Being more knowledgeable about, and adaptable to the organisation also supports a change in focus of internal auditing, from a focus on auditing specific organisational units to a focus on elements such as processes, which are found to be value-adding. Finally, delivering customer/auditee-oriented audit reports quickly after the audit has been shown to add value in the audit process and supports accessibility of the audit service.

Second, to improve auditees' interaction in the audit service, findings point to the criticality of auditors being adaptable to the QMS context. Not being adaptable to the QMS context may impact management view on the QMS; for example, an audit focusing on documentation will fortify a management view that QMS is cost-driving, and lacking in strategic importance, which will result in management being likely to show little respect for quality management and related activities such as auditing. Furthermore, clarifying the purpose of the audit, using easy to understand and correct terminology and language, are examples of auditor's behaviour and attitudes that support interaction in the audit service.

Third, to improve auditees' participation in the audit process, the findings indicate that practices such as spending more time in the preparation phase of the audit and adding the sponsor role improve the participation and enable a continuous involvement of management throughout the audit process. Having this participation from management supports an early discussion about the content and focus of an upcoming audit and creates possibilities to align audits to strategic plans. It also enables involvement from management in reporting, follow-up of and closing of findings. Having this type of close participation prepares the auditee to participate in and impact the audit service and become a co-creator of value. However, as pointed out in this thesis, this close interaction with management and other parts of the organisation, before and after the audit, may jeopardise an auditor's independence.

Finally, value in an audit cannot solely be created by the audit team and through the audit report. Value is created in interaction between the auditor and the auditee. By viewing audits as a service and paying attention to the three elements for augmenting the audit service –

accessibility, interaction and participation – I argue that audits can support value creation beyond assuring compliance to standard requirements.

## **6.1 Closing the thesis**

Finally, as I opened this thesis with a quote regarding the potential in auditing of quality management system, I would like to close it with a quote from one of the informants in Study I. This informant has experienced both the ‘old way of performing audits’, but also the improved way of auditing drawing on components in the augmented audit service model.

*“What I experience as positive is that the audit has been taken beyond the checklist and become closer to the operation and a support for performance improvements, [...] and that the auditor in cooperation with the organization identifies relevant areas to audit.”*

Key informant in Study I and senior vice president (2017)

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